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SoundEarth Strategies, Inc.
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INTERIM REMOVAL ACTION COMPLETION REPORT

THIRD MODIFICATION FOR THE ADMINISTRATIVE ORDER ON CONSENT FOR REMOVAL ACTION—JORGENSEN FORGE OUTFALL SITE

Property:

Jorgensen Forge Outfall Site
8531 East Marginal Way
Seattle, Washington

Prepared for:

U.S. Environmental Protection Agency
Region 10
1200 Sixth Avenue
Seattle, Washington

Report Date:

November 30, 2015

Interim Removal Action Completion Report
Third Modification for the Administrative Order on
Consent for Removal Action—Jorgensen Forge Outfall Site

Jorgensen Forge Outfall Site
8531 East Marginal Way
Seattle, Washington 98101
CERCLA Docket No. 10-2011-0017

Prepared for:

U.S. Environmental Protection Agency
1200 Sixth Avenue
Seattle, Washington 98101

Prepared on Behalf Of:

Jorgensen Forge Corporation
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Seattle, Washington

and:

The Boeing Company
P.O. Box 3707
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November 30, 2015

SoundEarth Strategies

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A Site Photographs
B Laboratory Analytical Reports

ARI Report No. AML7, dated September 16, 2015
ARI Report No. AMN4, dated September 17, 2015
ARI Report No. AMO6, dated September 17, 2015
ARI Report No. AMV1, dated September 23, 2015

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ARI Report No. AMW0, dated October 5, 2015

ARI Report No. ANA4, dated October 6, 2015

ARI Report No. ANA5, dated October 6, 2015

C Data Validation Report

D Disposal Receipts

ACRONYMS AND ABBREVIATIONS

ARI	Analytical Resources, Inc.
BMP	best management practice
Boeing	The Boeing Company
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CMP	corrugated metal pipe
EPA	U.S. Environmental Protection Agency
Interim RACR	Interim Removal Action Completion Report
JFOS	Jorgensen Forge Outfall Site (the area encompassing the northwest corner of the Jorgensen Forge Property and the southwest corner of the Boeing Plant 2 Property, subject to CERCLA Docket No. 10-2011-0017)
mg/kg	milligrams per kilogram
NAD83	North American Datum, 1983
NAVD88	North American Vertical Datum, 1988
Order	*Administrative Order on Consent for Removal Action, Comprehensive Environmental Response, Compensation, and Liability Act Docket No. 10-2011-0017*
PCB	polychlorinated biphenyl
PPE	personal protective equipment
Pyron	Pyron Environmental, Inc.
QA/QC	quality assurance/quality control
QAPP	Quality Assurance Project Plan
SAP	Sampling and Analysis Plan
SoundEarth	SoundEarth Strategies, Inc.

ACRONYMS AND ABBREVIATIONS (CONTINUED)

Third Modification	Third *Administrative Order on Consent for Removal Action, Comprehensive Environmental Response, Compensation, and Liability Act Docket No. 10-2011-0017*
USACE	U.S. Army Corps of Engineers

1.0 INTRODUCTION

This Interim Removal Action Completion Report (Interim RACR) has been prepared by SoundEarth Strategies, Inc. (SoundEarth) on behalf of the Jorgensen Forge Corporation and The Boeing Company (Boeing) pursuant to the *Third Modification to the Administrative Order on Consent for Removal Action* (Order) *at the Jorgensen Forge Outfall Site* (Third Modification; EPA 2015a).

The purpose of this Interim RACR is to document the Unshored Excavation Area removal action completed between September 14 and 23, 2015, in the eastern portion of the Jorgensen Forge Outfall Site (JFOS; Figure 1) that is the focus of the Third Modification. The data presented in this Interim RACR document compliance with the cleanup level of 1 milligram per kilogram (mg/kg) polychlorinated biphenyls (PCBs) in soil within the completed eastern (unshored) portion of the JFOS.

Corrugated Metal Pipe (CMP) removal activities in the remaining western (shored) portion of the JFOS are scheduled to commence in Second or Third Quarter 2016. Following the removal action in the Shored Excavation Area, a final RACR will be submitted to the U.S. Environmental Protection Agency (EPA) in accordance with the CMP Work Plan dated August 14, as revised through September 24 (SoundEarth 2015), and subject to further revision based on EPA comments dated October 29.

2.0 INTERIM REMOVAL ACTION

The interim action was initiated in September 2015 to meet EPA's time-critical action requirement by commencing a portion of the overall project no later than September 17. The portions of the overall project that were straightforward to initiate included the removal by excavation of the anomalous PCB occurrence from the location of boring 2-66-SP-10 and the CMPs and associated PCBs from areas that did not require engineered shoring (collectively, the Unshored Excavation Area).

The Unshored Excavation Area removal action commenced on September 14 in accordance with the CMP Work Plan and EPA's Conditional Approval letter dated September 11 (EPA 2015b). U.S. Army Corps of Engineers (USACE) personnel represented the EPA throughout the interim removal action field activities, which were completed on September 23, 2015. Selected photographs are included in Attachment A of this Interim RACR.

2.1 EXCAVATION APPROACH

PCB-contaminated soils within the Unshored Excavation Area were (1) within approximately 12 feet of the ground surface, (2) above the groundwater table, and (3) accessible to standard excavation equipment without the use of engineered shoring. Therefore, the interim removal action excavation approach for the Unshored Excavation Area was (1) a targeted spot excavation at the location of boring 2-66-SP-10 and (2) a larger open excavation supported with a trench box to remove both CMPs and

associated soils underlying the CMPs, if warranted by confirmation sampling. The CMP in this area was approximately 32 feet in length and the smaller 12-inch CMP appeared to angle to the larger 24-inch CMP, implying that the 12-inch CMP may in actuality be connected to the 24-inch CMP somewhere within the shored excavation area.

The main objective of the spot and open excavation approaches was to demonstrate compliance with the cleanup level of 1 mg/kg total PCBs in remaining soil.

2.2 SITE PREPARATION

Site preparation activities included installation of survey control points, a preconstruction site walk with owners' representatives and the contractor, and installation of best management practices (BMPs) to control stormwater runoff and mitigate dust in the vicinity of the work area.

- On August 20, Axis Survey and Mapping of Kirkland, Washington, installed survey control points at four locations for reference during construction. Specifically, survey hubs were placed above the CMP centerline of each clay-to-CMP transition point, and at the "ESE Corner" and "SE Corner" of the Unshored Excavation Envelope (Figure 4 of the CMP Work Plan). The horizontal datum for the JFOS project is North American Datum 1983 (NAD83) and the vertical datum in North American Vertical Datum 1988 (NAVD88).
- During the preconstruction site walk on September 11, the pavement patch for boring 2-66-SP-10 was field-verified and marked using directional offset measurements. The offset measurements enabled the spot excavation to be centered at the boring location after the pavement had been removed.
- BMPs included site controls in the form of a demarcated exclusion zone and a decontamination zone equipped with a boot wash to prevent tracking of contaminants beyond the limits of the work area. The excavator bucket and trench box were suspended over the trench box excavation during the decontamination process. A silt fence was installed, spanning the west, downhill side of the work area to slow and remove suspended solids from stormwater runoff. The silt fence was placed downhill to the west of the Unshored Excavation Area, and uphill to the east of the existing steel sheet pile wall that marks the boundary between the JFOS and the Duwamish Waterway. In addition to the silt fence, exposed soils south-adjacent to the JFOS were covered with heavy duty plastic sheeting to protect underlying soils from dust, precipitation, and incidental spillage of soil particles (Attachment A, Photograph 1).

2.3 SCOPE OF EXCAVATION AND CMP REMOVAL

The removal action commenced on September 14 with the spot excavation at the location of boring 2-66-SP-10. The spot excavation was advanced to Elevation +9 feet relative to NAVD88 (approximately 7 feet below pavement surface), and subsequently deepened on September 21 to Elevation +6 feet, based on the results of the first round of confirmation sampling (Section 3.1).

The dimensions of the larger CMP removal excavation measured 36 feet east-west by 14 feet north-south. The north-south dimension represented the width required to accommodate a trench box and allow removal of the two CMPs. The sidewalls of the CMP removal excavation were nominally vertical. The north and south sidewalls were supported using trench boxes, supplemented with steel plates to protect the east and west endwalls. The bottom of the CMP removal excavation was advanced to Elevation +6 feet under the 12-inch CMP, and Elevation +5 feet under the 24-inch CMP, equal to the bottom elevations of each CMP.

The sections of CMP removed in the Unshored Excavation Area appeared to be in good condition (i.e., without any visible holes or other signs of corrosion or damage). Soil and CMP removed from the Unshored Excavation Area were segregated and disposed as described in Section 4.0 of this Interim RACR.

2.4 EQUIPMENT DECONTAMINATION

The excavator bucket and trench box required decontamination following use. Additionally, at the request of USACE personnel, the excavator bucket was decontaminated once after Subtitle D material had been removed from the trench box excavation, prior to excavating Subtitle C materials. Equipment decontamination was performed in accordance with the Decontamination Procedures presented in Appendix D of the CMP Work Plan.

3.0 SAMPLING AND ANALYSIS

Samples collected for this project were analyzed for PCBs by EPA Method 8082A by Analytical Resources, Inc. (ARI) of Tukwila, Washington, a Washington State-accredited environmental laboratory and National Environmental Laboratory Accreditation Program-certified by the Oregon Environmental Laboratory Accreditation Program (ORELAP identification number WA100006; EPA code WA00037).

The scope of PCB analysis included the nine PCB Aroclors 1016, 1221, 1232, 1242, 1248, 1254, 1260, 1262, and 1268. In the calculation of total PCB concentrations, SoundEarth added together the detected values of individual Aroclors; if an Aroclor was not detected, then that undetected Aroclor was assigned a concentration of zero for summation purposes.

On the transmittal page of each report, ARI indicated whether or not the data quality had been affected by any incidents of note. Analytical results were flagged in accordance with the appropriate Data Reporting Qualifier in the event that data quality was affected (e.g., reporting limit raised due to chromatographic interference). Laboratory reports are included in Attachment B.

3.1 RESULTS OF CONFIRMATION SAMPLING AND ANALYSIS

The scope of sampling included the collection and analysis of confirmation and post-construction baseline surface soil samples. In addition, one field quality assurance/quality control (QA/QC) sample

(an equipment rinsate water sample) was collected during the removal action in accordance with the CMP Work Plan. The analytical results are presented on Table 1 and summarized below:

- The confirmation sample collected from the bottom of the initial spot excavation on September 14 at location number 11 had a total PCB concentration of 1.14 mg/kg, which exceeded the cleanup level and, accordingly, the spot location was further excavated on September 21. The bottom of the spot excavation and each of four sidewalls were resampled. The confirmation sample collected from the final bottom of the spot excavation at boring 2-66-SP-10 (sample location number 11) had a total PCB concentration less than the cleanup level.
- The total PCB concentrations in the confirmation samples collected from locations 7, 8, 9, and 10, directly under the former CMPs, were all less than the cleanup level of 1 mg/kg. These results were consistent with field observations of the CMP, which appeared to be in good condition with no visual indications of perforation or leakage to surrounding soils.
- Four sidewall confirmation samples were collected from the spot excavation on September 14. PCB concentrations in the four sidewall confirmation samples were all below 1 mg/kg, demonstrating lateral compliance with the cleanup level surrounding boring location 2-66-SP-10. These locations were resampled on September 21 when the spot excavation was deepened. These four additional sidewall samples also all contained total PCB concentrations that were less than the cleanup level.
- Three post-construction baseline surface samples of the backfill material were collected at approximately Elevation +15.5 at sample locations 9, 10, and 11. PCBs were not detected in the baseline samples.

3.2 QUALITY ASSURANCE/QUALITY CONTROL SAMPLES

The Sampling and Analysis Plan/Quality Assurance Project Plan (SAP/QAPP) appended to the CMP Work Plan requires the collection of field duplicates at a frequency of approximately 5 percent (1 per 20), or a fraction thereof, of the total number of water samples, and the collection of equipment rinsate blanks at a frequency of 5 percent of the total number of soil samples. No water samples were collected in connection with the interim removal action; therefore, no field duplicate samples were collected.

SoundEarth collected one equipment rinsate water sample in connection with the field sampling activities completed on September 23. PCBs were not detected in the QA/QC sample, an equipment rinsate sample that was obtained by pouring laboratory-supplied deionized water over the stainless steel spoon used to collect confirmation sample number CMP24-B10-1+05. The spoon was decontaminated in the same manner as the excavator bucket and trench box, in accordance with the Decontamination Procedures in Appendix D of the CMP Work Plan.

3.3 DATA VALIDATION

Pyron Environmental, Inc. (Pyron) of Olympia, Washington, performed Stage 2B data validation on ARI laboratory report numbers AML7, AMN4, AMO6, AMV1, AMW0, ANA4, and ANA5. Pyron's assessment

concluded that the PCB data are of known quality and acceptable for use as qualified. A summary of data affected by anomalies is provided in Table 1 of Pyron's data validation report, which is included in this Data Report as Attachment C.

3.4 SITE RESTORATION

Upon receipt of analytical results for each batch of confirmation samples, a preliminary data package was submitted to the EPA for review. Following review of each preliminary data package, the EPA responded on September 18 and 22, via email, with authorization to backfill each of the two excavation areas.

On September 21, the CMP removal excavation was backfilled using a foot-thick layer of quarry spalls to stabilize the base before clean, imported pit run was placed and compacted. Pit run was placed and compacted to an elevation approximately one foot below surrounding grades, with a slight depression in the center, to promote infiltration of runoff inside the footprint of the CMP removal excavation. Finally, approximately one-foot of quarry spalls was placed over the footprint of the CMP removal excavation to match surrounding grades.

On September 23, the spot excavation was backfilled with clean, compacted, imported pit run to match the surrounding pavement grades.

4.0 WASTE MANAGEMENT

The interim removal action generated two regulated waste streams: Subtitle D soil (PCB concentrations less than or equal to 50 mg/kg, including used personal protective equipment [PPE]) and Subtitle C soil (PCB concentrations presumed greater than 50 mg/kg). The two classes of waste were segregated, managed, and disposed in accordance with the CMP Work Plan:

- Subtitle D soil removed from the spot excavation at boring 2-66-SP-10 and above the CMPs was placed into dump trucks and transported to Waste Management's Seattle, Washington, transfer station for disposal at Columbia Ridge Landfill in Arlington, Oregon. PPE generated during this project was combined with the Subtitle D waste soil. A total of 17.38 tons of soil and PPE were disposed of as Subtitle D waste.
- The CMPs, along with soil removed at or below the tops of the CMPs was direct loaded into lined roll-off containers, and transported to U.S. Ecology's facility in Grand View, Idaho, for disposal as Subtitle C waste. A total of 115.04 tons of soil were disposed of as Subtitle C waste.

In addition to the above-listed regulated waste streams, concrete pavement that was demolished in preparation for this removal action was recycled at JEV Recycling of Woodinville, Washington. Summaries of the waste tonnages disposed at each facility are included in Attachment D of this Interim RACR.

5.0 VARIANCE FROM PLAN

Upon review and evaluation of the data obtained in connection with the Unshored Excavation Area removal action at JFOS, SoundEarth identified the following variance from the plan:

- Due to equipment access limitations, the spot excavation at the location of boring 2-66-SP-10 was oriented at a 45-degree angle relative to the planned orientation. The bottom sample was collected at the planned coordinates, but each sidewall sample was collected one to two feet away from the planned coordinates listed in Section 4.6.1 of the SAP/QAPP due to the slightly revised alignment. Planned and actual sample coordinates are provided in Table 2 attached to this Interim RACR.
- The actual alignment of the 12-inch CMP varied from the mapped alignment assumed from old drawings, and the priority for confirmation sampling was to characterize soil directly under the 12-inch CMP. Therefore, the coordinates for the 12-inch CMP confirmation soil samples (sample location nos. 7 and 8) varied from 1 to 3 feet from the planned coordinates presented in Section 3.1 of the SAP/QAPP. Planned and actual sample coordinates are provided in Table 2 attached to this Interim RACR.

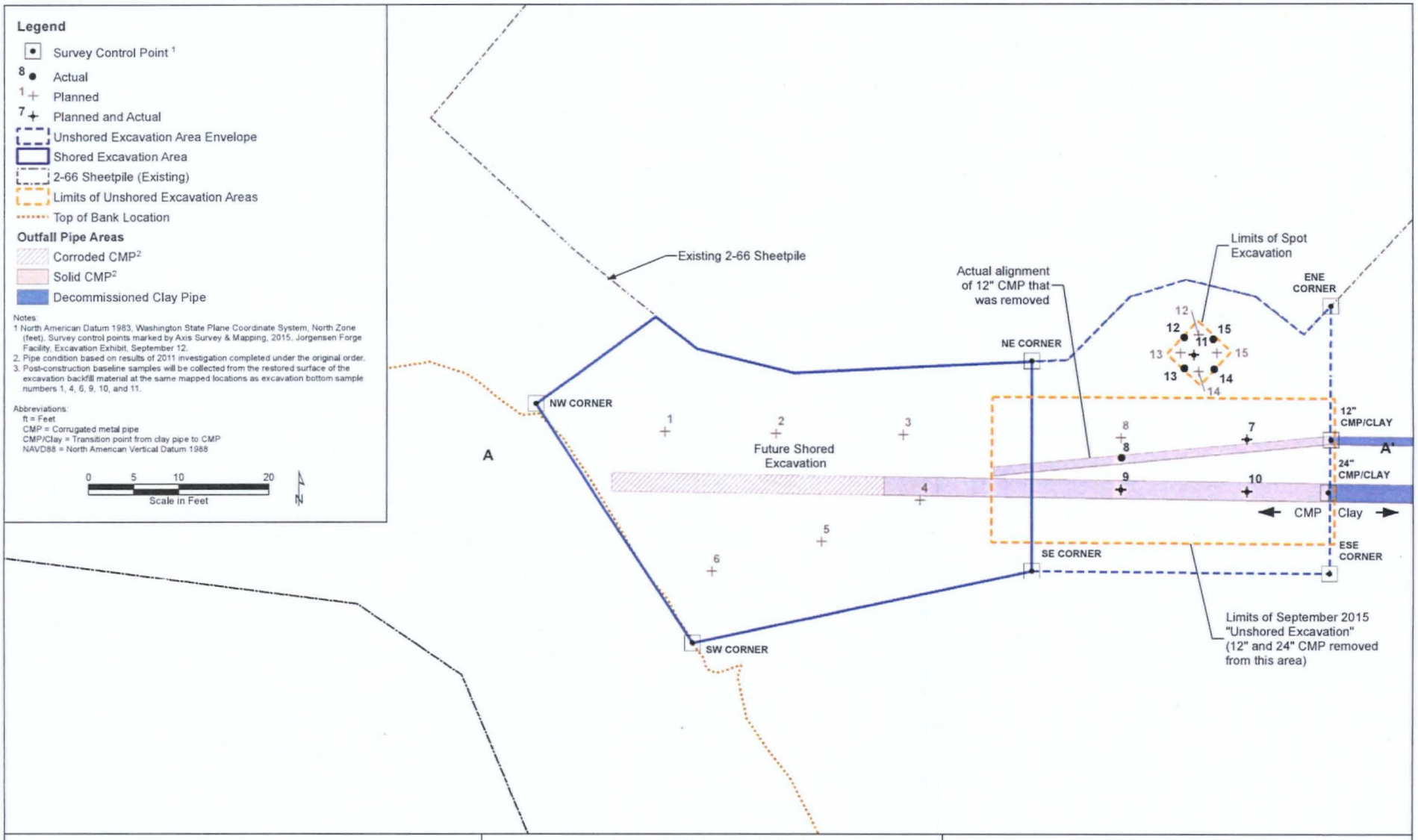
6.0 BIBLIOGRAPHY

SoundEarth Strategies, Inc. (SoundEarth). 2015. *Corrugated Metal Pipe Work Plan, Third Modification for the Administrative Order on Consent for Removal Action, Jorgensen Forge Outfall Site, 8531 East Marginal Way South, Seattle, Washington*. August 14. Revised September 2 and 24.

U.S. Environmental Protection Agency (EPA). 2015a. *Third Modification for Administrative Order on Consent for Removal Action, Jorgensen Forge Outfall Site*, with Jorgensen Forge Corporation, Boeing Company, and EPA. CERCLA Docket No. 10-2011-0017. June 25.

_____. 2015b. *US EPA Conditional Approval and Notice to Proceed with the Time Critical Removal Action—Jorgensen Forge Outfall Site Corrugated Metal Pipe Work Plan, Jorgensen Forge Outfall Cleanup, Lower Duwamish Waterway Superfund Site, Seattle, WA*. September 11.

FIGURE



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Third Modification to the Order
Jorgensen Forge Outfall Site
Seattle, Washington
CERCLA Docket No. 10-2011-0017

Figure 1
Limits of Excavation and Confirmation Sample Location Map
Unshored Excavation Areas

I:\GIS\Projects\BOE-PL2\MXD\JFOS\Figure 1 Limit of Excavation and Confirmation Sample Location Map - Unshored Excavation Areas.mxd
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TABLES

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Table 1
Summary of Soil Analytical Results
Jorgensen Forge Outfall Site
Third Modification
8531 East Marginal Way South
Seattle, Washington
CERCLA Docket No. 10-2011-0017

Area	Confirmation Sample No. from Figure 7 of the CMP Work Plan and Section 3.1 of the SAP	Sample ID	Description of Sample Location	ARI Report No.	Sample Date	Sample Elevation[1]	Polychlorinated Biphenyls[2] (mg/kg)										Comments
							Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	Aroclor 1262	Aroclor 1268	Total PCBs[3]	
REMOVAL ACTION CONFIRMATION SAMPLES																	
Unshored Excavation / Spot Excavation Centered at Boring 2-66-SP-10	11	266-B11-1+9	Bottom	AML7	09/15/15	+9	<0.097	<0.097	<0.097	<0.097	<0.097	**0.820**	**0.320**	<0.097	<0.097	1.140	*Removed on 9/21/2015 and resampled. See * below.*
	12	266-N12-1+13	North Sidewall	AML7	09/15/15	+13	<0.095	<0.095	<0.095	<0.095	<0.095	**0.570**	**0.280**	<0.095	<0.095	**0.850**	
	13	266-W13-1+11	West Sidewall	AML7	09/15/15	+11	<0.018	<0.018	<0.018	<0.018	<0.018	<0.018	<0.018	<0.018	<0.018	<0.018	
	14	266-S14-1+13	South Sidewall	AML7	09/15/15	+13	<0.019	<0.019	<0.019	<0.019	<0.019	<0.019	<0.019	<0.019	<0.019	<0.019	
	15	266-E15-1+11	East Sidewall	AML7	09/15/15	+11	<0.019	<0.019	<0.019	<0.019	<0.019	<0.029 Y	**0.220**	<0.019	<0.019	**0.220**	
Unshored Excavation / Trenchbox Area for CMP Removal	7	CMP12-B07-1+06	Under 12" CMP, NE Quadrant	AMO6	09/16/15	+6	<0.018	<0.018	<0.018	<0.018	<0.018	<0.018	<0.018	<0.018	<0.018	<0.018	
	8	CMP12-B08-1+06	Under 12" CMP, NW Quadrant	AMN4	09/15/15	+6	<0.018	<0.018	<0.018	<0.018	<0.018	<0.018	<0.018	<0.018	<0.018	<0.018	
	9	CMP24-B09-1+05	Under 24" CMP, SW Quadrant	AMN4	09/15/15	+5	<0.020	<0.020	<0.020	<0.020	<0.059 Y	**0.360**	**0.066**	<0.020	<0.020	**0.426**	
	10	CMP24-B10-1+05	Under 24" CMP, SE Quadrant	AMO6	09/16/15	+5	<0.018	<0.018	<0.018	<0.018	<0.018	<0.018	<0.018	**0.039**	<0.018	**0.039**	
Unshored Excavation / Spot Excavation Centered at Boring 2-66-SP-10	11	266-B11-2+06	Bottom	AMV1	09/21/15	+6	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	**0.061**	<0.015	<0.015	**0.061**	
	12	266-N12-2+07	North Sidewall	AMV1	09/21/15	+7	<0.015	<0.015	<0.015	<0.015	<0.015	<0.051 Y	**0.230**	<0.015	<0.015	**0.230**	
	13	266-W13-2+07	West Sidewall	AMV1	09/21/15	+7	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	
	14	266-S14-2+07	South Sidewall	AMV1	09/21/15	+7	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	
	15	266-E15-2+07	East Sidewall	AMV1	09/21/15	+7	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	**0.030**	<0.015	<0.015	**0.030**	
POST-CONSTRUCTION BASELINE SAMPLES																	
Unshored Excavation Areas, September 2015	9	JFOS3-PC09+15	Southwest Surface Sample	AMW0	09/21/15	+15	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	
	10	JFOS3-PC10+15	Southeast Surface Sample	AMW0	09/21/15	+15	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	
	11	JFOS3-PC11+15	North Surface Sample	ANA4	09/23/15	+15	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	<0.017	
															Cleanup Level:	**1**	

QUALITY ASSURANCE/QUALITY CONTROL SAMPLE ***WATER SAMPLE RESULTS REPORTED IN MICROGRAMS PER LITER (µg/L)***																	
Unshored Excavation Areas, September 2015	10	CMP24-B10+05R	Equipment Rinsate Sample (Water)	ANA5	09/23/15	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	
															Cleanup Level:	–	

NOTES:
Red text signifies PCB concentration above the cleanup level
Results in **bold** denote a detected concentration.
Results reported in mg/kg dry weight, unless noted otherwise.
[1] Elevation in feet relative to North American Vertical Datum, 1988.
[2] Analyzed by EPA Method 8082A.
[3] Total PCBs are calculated by summing the detected PCB Aroclor concentrations.

LABORATORY DATA QUALIFIERS:
Y = The analyte is not detected at or above the reporting limit. The reporting limit is raised due to chromatographic interference.

ABBREVIATIONS AND SYMBOLS:
– = not applicable
< = indicates that the target analyte was not detected at the reported concentration
ARI = Analytical Resources, Inc.
CMP = corrugated metal pipe
EPA = U.S. Environmental Protection Agency
ID = identification
mg/kg = milligrams per kilogram dry weight
PCB = polychlorinated biphenyl
SAP = Sampling and Analysis Plan
µg/L = micrograms per liter

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Table 2
Summary of Coordinates for
Peformance and Confirmation Sample Locations
Jorgensen Forge Outfall Site
Third Modification
Seattle, Washington
CERCLA Docket No. 10-2011-0017

CONFIRMATION SAMPLE LOCATION NO. (FROM FIGURE 7 OF THE CMP WORK PLAN AND SECTION 3.1 OF THE SAP)	CONFIRMATION SAMPLE ID NO.	PLANNED EASTING COORDINATE[1] (ft)	PLANNED NORTHING COORDINATE[1] (ft)	ACTUAL EASTING COORDINATE[2] (ft)	ACTUAL NORTHING COORDINATE[2] (ft)	EAST-WEST VARIANCE, PLANNED MINUS ACTUAL (ft)	NORTH-SOUTH VARIANCE, PLANNED MINUS ACTUAL (ft)	COMMENTS
1	*NA*	1275786.5	195806.7	*NA*	*NA*	*NA*	*NA*	*Future phase of work scheduled for Second Quarter 2016*
2	*NA*	1275798.8	195806.5	*NA*	*NA*	*NA*	*NA*	*Future phase of work scheduled for Second Quarter 2016*
3	*NA*	1275812.8	195806.3	*NA*	*NA*	*NA*	*NA*	*Future phase of work scheduled for Second Quarter 2016*
4	*NA*	1275814.7	195799.1	*NA*	*NA*	*NA*	*NA*	*Future phase of work scheduled for Second Quarter 2016*
5	*NA*	1275803.8	195794.5	*NA*	*NA*	*NA*	*NA*	*Future phase of work scheduled for Second Quarter 2016*
6	*NA*	1275791.7	195791.2	*NA*	*NA*	*NA*	*NA*	*Future phase of work scheduled for Second Quarter 2016*
7	CMP12-B07-1+06	1275850.8	195805.8	1275851	195805	0	1	*Actual 12" angles south of mapped alignment; sample collected under actual CMP*
8	CMP12-B08-1+06	1275836.9	195806.0	1275837	195803	0	3	*Actual 12" angles south of mapped alignment; sample collected under actual CMP*
9	CMP24-B09-1+05	1275836.9	195800.2	1275837	195800	0	0	*Zero variance*
10	CMP24-B10-1+05	1275850.8	195800.0	1275851	195800	0	0	*Zero variance*
11	266-B11-1+09	1275845.0	195815.1	1275845	195815	0	0	*Zero variance*
12	266-N12-1+13	1275845.5	195817.3	1275844	195817	2	1	*Actual excavation oriented 45 degrees relative to planned orientation, and centered on sample location no. 11*
13	266-W13-1+11	1275843.5	195815.3	1275844	195814	-1	2	*Actual excavation oriented 45 degrees relative to planned orientation, and centered on sample location no. 11*
14	266-S14-1+13	1275845.5	195813.3	1275847	195814	-2	-1	*Actual excavation oriented 45 degrees relative to planned orientation, and centered on sample location no. 11*
15	266-E15-1+11	1275847.5	195815.3	1275847	195817	1	-2	*Actual excavation oriented 45 degrees relative to planned orientation, and centered on sample location no. 11*
11	266-B11-2+06	1275845.0	195815.1	1275845	195815	0	0	*Zero variance*
12	266-N12-2+07	1275845.5	195817.3	1275844	195817	2	1	*Actual excavation oriented 45 degrees relative to planned orientation, and centered on sample location no. 11*
13	266-W13-2+07	1275843.5	195815.3	1275844	195814	-1	2	*Actual excavation oriented 45 degrees relative to planned orientation, and centered on sample location no. 11*
14	266-S14-2+07	1275845.5	195813.3	1275847	195814	-2	-1	*Actual excavation oriented 45 degrees relative to planned orientation, and centered on sample location no. 11*
15	266-E15-2+07	1275847.5	195815.3	1275847.0	195817	1	-2	*Actual excavation oriented 45 degrees relative to planned orientation, and centered on sample location no. 11*

NOTES:

[1] North American Datum 1983, Washington State Plane Coordinate System, North Zone (feet)

[2] Field tape measurements from survey control points located by Axis Survey & Mapping, 2015. Jorgensen Forge Facility, Excavation Exhibit, September 12.

CMP = Construction Management Plan

ft = feet

NA = not applicable

SAP = Sampling and Analysis Plan

ATTACHMENT A

SITE PHOTOGRAPHS

Photograph 1. Site preparation, viewing west. Plastic sheeting protects south-adjacent project, silt fence spans the down-slope end of work area. Survey control stakes placed for reference.

Photograph 2. Commencement of removal action on September 14, 2015, viewing south.

Photograph 3. Spot excavation at location of boring 2-66-SP-10, viewing south.

Photograph 4. CMP in good condition and resistant to pressure from excavator bucket. Subtitle C material beneath the tops of the CMP.

Photograph 5. Removal of CMP from the Unshored Excavation Area, viewing north.

Photograph 6. Unshored excavation areas backfilled and protected with one foot of quarry spalls, viewing northwest. Existing 2-66 sheet pile wall visible at left.

SoundEarth Strategies	Project No.: 10-2011-0017 Date Range: September 14 - 23, 2015 Drawn By: DHG Checked By: DHG File ID: Project Photographs	**INTERIM ACTION PHOTOGRAPHS** Jorgensen Forge Outfall Site Third Modification 8531 East Marginal Way South Seattle, Washington

ATTACHMENT B

LABORATORY ANALYTICAL REPORTS

Analytical Resources, Inc. Report No. AML7

Analytical Resources, Incorporated
Analytical Chemists and Consultants

16 September 2015

Dee Gardner
Sound Earth Strategies, Inc.
2811 Fairview Avenue East, Suite 2000
Seattle, WA 98102

RE: JFOS3
ARI Job No.: AML7

Dear Dee:

Please find enclosed the original chain of custody record and the final results for the samples from the project referenced above. Analytical Resources, Inc. received five soil samples on September 15, 2015. The samples were analyzed for PCBs as requested.

These analyses proceeded without incident of note.

If you have any questions regarding these results, please feel free to contact me at your convenience.

Sincerely,

ANALYTICAL RESOURCES, INC.

Mark D. Harris
Project Manager
206/695-6210
markh@arilabs.com

cc: Miles Dyer, Jorgensen Forge
file AML7

Enclosures

Chain of Custody Record & Laboratory Analysis Request

ARI Assigned Number: AML7	Turn-around Requested: 24 HOURS	Page: 1 of 1	
ARI Client Company: JORGENSEN FORGE CORP.	Phone: 206.762.1100	Date: 9/15/15	Ice Present?
Client Contact: MILES DYER		No. of Coolers:	Cooler Temps:
Client Project Name: JF053			
Client Project #:	Samplers: J. LOEFFLER		

Analytical Resources, Incorporated
Analytical Chemists and Consultants
4611 South 134th Place, Suite 100
Tukwila, WA 98168
206-695-6200 206-695-6201 (fax)
www.arilabs.com

Sample ID	Date	Time	Matrix	No. Containers	Analysis Requested: PCBs by EPA 8082	Notes/Comments
266-N12-1+13	9/15/15	0845	SOIL	1	X	STAGE 2B REPORTING PER SAP/QAPP
266-S14-1+13	"	0855	"	1	X	
266-W13-1+11	"	0900	"	1	X	
266-E15-1+11	"	0905	"	1	X	
266-B11-1+9	"	0909	"	1	X	

9/15/15

Comments/Special Instructions	Relinquished by:	Received by:	Relinquished by:	Received by:
CC: DEE GARDNER AT SOUNDEARTH dgardner@soundearth inc.com	(Signature)	(Signature)	(Signature)	(Signature)
	Printed Name: JONATHAN LOEFFLER	Printed Name: Emily Irwin	Printed Name:	Printed Name:
	Company: SOUNDEARTH	Company: ARI	Company:	Company:
	Date & Time: 9/15/15 @ 0945	Date & Time: 9/15/15 945	Date & Time:	Date & Time:

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Cooler Receipt Form

ARI Client: Jorgensen Forge Project Name: JF053

COC No(s): _____ NA Delivered by: Fed-Ex UPS Courier Hand Delivered Other: _____

Assigned ARI Job No: AML7 Tracking No: _____ NA

Preliminary Examination Phase:

Were intact, properly signed and dated custody seals attached to the outside of to cooler?	YES	NO
Were custody papers included with the cooler?	YES	NO
Were custody papers properly filled out (ink, signed, etc.)	YES	NO

Temperature of Cooler(s) (°C) (recommended 2.0-6.0 °C for chemistry): ~~13~~ 2.4

Time: _____

If cooler temperature is out of compliance fill out form 00070F Temp Gun ID#: D00256O5

Cooler Accepted by: LL Date: 9/15/15 Time: 945

Complete custody forms and attach all shipping documents

Log-In Phase:

Was a temperature blank included in the cooler?		YES	NO
What kind of packing material was used? ... Bubble Wrap Wet Ice Gel Packs Baggies Foam Block Paper Other: _____			
Was sufficient ice used (if appropriate)?	NA	YES	NO
Were all bottles sealed in individual plastic bags?		YES	NO
Did all bottles arrive in good condition (unbroken)?		YES	NO
Were all bottle labels complete and legible?		YES	NO
Did the number of containers listed on COC match with the number of containers received?		YES	NO
Did all bottle labels and tags agree with custody papers?		YES	NO
Were all bottles used correct for the requested analyses?		YES	NO
Do any of the analyses (bottles) require preservation? (attach preservation sheet, excluding VOCs)...	NA	YES	NO
Were all VOC vials free of air bubbles?	NA	YES	NO
Was sufficient amount of sample sent in each bottle?		YES	NO
Date VOC Trip Blank was made at ARI	NA		

Was Sample Split by ARI : NA YES Date/Time: _____ Equipment: _____ Split by: _____

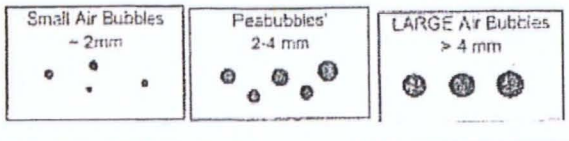
Samples Logged by: LL Date: 9/15/15 Time: 1040

*** Notify Project Manager of discrepancies or concerns ***

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Additional Notes, Discrepancies, & Resolutions:

By: Date:



Small → "sm" (< 2 mm)
Peabubbles → "pb" (2 to < 4 mm)
Large → "lg" (4 to < 6 mm)
Headspace → "hs" (> 6 mm)

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Cooler Temperature Compliance Form

Cooler#:	Temperature(°C): 12.9	
Sample ID	Bottle Count	Bottle Type
all samples received above 6°C		

Cooler#:	Temperature(°C):	
Sample ID	Bottle Count	Bottle Type

Cooler#:	Temperature(°C):	
Sample ID	Bottle Count	Bottle Type

Cooler#:	Temperature(°C):	
Sample ID	Bottle Count	Bottle Type

Completed by: ul Date: 9/15/15 Time: 945

Subject: RE: AML7-Jorgensen
From: Dee Gardner <dgardner@soundearthinc.com>
Date: 9/15/2015 10:52 AM
To: Mark Harris <markh@arilabs.com>
CC: "Dyer, Miles" <mdyer@JorgensenForge.com>

Mark,
Please proceed with the requested analysis. The samples were delivered straight from the field for the purpose of expedited analysis. We'll write up a qualifying statement in the report if need be.
Thank you,
Dee

Deborah Gardner
SoundEarth Strategies, Inc.

-----Original Message-----
From: Mark Harris [mailto:markh@arilabs.com]
Sent: Tuesday, September 15, 2015 10:36 AM
To: Dee Gardner
Subject: AML7-Jorgensen

Dee:

FYI: The PCB samples, received today, were above the recommended temp of 6 degrees.

Let me know if you'd like us to cancel these. otherwise, we'll get these going as quickly as possible.

Mark H.

--
Mark Harris
Project Manager
Analytical Resources, Inc.
206/695-6210
markh@arilabs.com

How was your customer experience?
Please take our 5 minute online customer survey <https://www.surveymonkey.com/s/WPDBVJK>.

attached document(s) is strictly prohibited.

If you have received this correspondence in error, please notify sender immediately. Thank you.

Sample ID Cross Reference Report

ANALYTICAL RESOURCES INCORPORATED

ARI Job No: AML7
Client: Jorgensen Forge
Project Event: N/A
Project Name: JFOS3

	Sample ID	ARI Lab ID	ARI LIMS ID	Matrix	Sample Date/Time	VTSR
1.	266-N12-1+13	AML7A	15-16293	Soil	09/15/15 08:45	09/15/15 09:45
2.	266-S14-1+13	AML7B	15-16294	Soil	09/15/15 08:55	09/15/15 09:45
3.	266-W13-1+11	AML7C	15-16295	Soil	09/15/15 09:00	09/15/15 09:45
4.	266-E15-1+11	AML7D	15-16296	Soil	09/15/15 09:05	09/15/15 09:45
5.	266-B11-1+9	AML7E	15-16297	Soil	09/15/15 09:09	09/15/15 09:45

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Data Reporting Qualifiers

Effective 12/31/13

Inorganic Data

U	Indicates that the target analyte was not detected at the reported concentration
*	Duplicate RPD is not within established control limits
B	Reported value is less than the CRDL but ≥ the Reporting Limit
N	Matrix Spike recovery not within established control limits
NA	Not Applicable, analyte not spiked
H	The natural concentration of the spiked element is so much greater than the concentration spiked that an accurate determination of spike recovery is not possible
L	Analyte concentration is ≤5 times the Reporting Limit and the replicate control limit defaults to ±1 RL instead of the normal 20% RPD

Organic Data

U	Indicates that the target analyte was not detected at the reported concentration
*	Flagged value is not within established control limits
B	Analyte detected in an associated Method Blank at a concentration greater than one-half of ARI's Reporting Limit or 5% of the regulatory limit or 5% of the analyte concentration in the sample.
J	Estimated concentration when the value is less than ARI's established reporting limits
D	The spiked compound was not detected due to sample extract dilution
E	Estimated concentration calculated for an analyte response above the valid instrument calibration range. A dilution is required to obtain an accurate quantification of the analyte.

Q	Indicates a detected analyte with an initial or continuing calibration that does not meet established acceptance criteria (<20%RSD, <20%Drift or minimum RRF).
S	Indicates an analyte response that has saturated the detector. The calculated concentration is not valid; a dilution is required to obtain valid quantification of the analyte
NA	The flagged analyte was not analyzed for
NR	Spiked compound recovery is not reported due to chromatographic interference
NS	The flagged analyte was not spiked into the sample
M	Estimated value for an analyte detected and confirmed by an analyst but with low spectral match parameters. This flag is used only for GC-MS analyses
N	The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification"
Y	The analyte is not detected at or above the reported concentration. The reporting limit is raised due to chromatographic interference. The Y flag is equivalent to the U flag with a raised reporting limit.
EMPC	Estimated Maximum Possible Concentration (EMPC) defined in EPA Statement of Work DLM02.2 as a value "calculated for 2,3,7,8-substituted isomers for which the quantitation and /or confirmation ion(s) has signal to noise in excess of 2.5, but does not meet identification criteria" **(Dioxin/Furan analysis only)**
C	The analyte was positively identified on only one of two chromatographic columns. Chromatographic interference prevented a positive identification on the second column
P	The analyte was detected on both chromatographic columns but the quantified values differ by ≥40% RPD with no obvious chromatographic interference
X	Analyte signal includes interference from polychlorinated diphenyl ethers. **(Dioxin/Furan analysis only)**
Z	Analyte signal includes interference from the sample matrix or perfluorokerosene ions. **(Dioxin/Furan analysis only)**

Geotechnical Data

A	The total of all fines fractions. This flag is used to report total fines when only sieve analysis is requested and balances total grain size with sample weight.
F	Samples were frozen prior to particle size determination
SM	Sample matrix was not appropriate for the requested analysis. This normally refers to samples contaminated with an organic product that interferes with the sieving process and/or moisture content, porosity and saturation calculations
SS	Sample did not contain the proportion of "fines" required to perform the pipette portion of the grain size analysis
W	Weight of sample in some pipette aliquots was below the level required for accurate weighting

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082A
Extraction Method: SW3546

Sample ID: MB-091515
METHOD BLANK

Lab Sample ID: MB-091515
LIMS ID: 15-16294
Matrix: Soil
Data Release Authorized: MW
Reported: 09/16/15

QC Report No: AML7-Jorgensen Forge
Project: JFOS3
Date Sampled: NA
Date Received: NA

Date Extracted: 09/15/15
Date Analyzed: 09/16/15 10:43
Instrument/Analyst: ECD7/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes
Florisil Cleanup: No

Sample Amount: 5.00 g
Final Extract Volume: 5.00 mL
Dilution Factor: 1.00
Silica Gel: No

Percent Moisture: NA

CAS Number	Analyte	LOQ	Result
12674-11-2	Aroclor 1016	20	< 20 U
53469-21-9	Aroclor 1242	20	< 20 U
12672-29-6	Aroclor 1248	20	< 20 U
11097-69-1	Aroclor 1254	20	< 20 U
11096-82-5	Aroclor 1260	20	< 20 U
11104-28-2	Aroclor 1221	20	< 20 U
11141-16-5	Aroclor 1232	20	< 20 U
37324-23-5	Aroclor 1262	20	< 20 U
11100-14-4	Aroclor 1268	20	< 20 U

Reported in µg/kg (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	96.2%
Tetrachlorometaxylene	95.0%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082A
Extraction Method: SW3546

Sample ID: 266-N12-1+13
SAMPLE

Lab Sample ID: AML7A
LIMS ID: 15-16293
Matrix: Soil
Data Release Authorized: MW
Reported: 09/16/15

QC Report No: AML7-Jorgensen Forge
Project: JFOS3

Date Sampled: 09/15/15
Date Received: 09/15/15

Date Extracted: 09/15/15
Date Analyzed: 09/16/15 08:14
Instrument/Analyst: ECD7/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes
Florisil Cleanup: No

Sample Amount: 5.27 g-dry-wt
Final Extract Volume: 5.00 mL
Dilution Factor: 5.00
Silica Gel: No

Percent Moisture: 25.5%

CAS Number	Analyte	LOQ	Result
12674-11-2	Aroclor 1016	95	< 95 U
53469-21-9	Aroclor 1242	95	< 95 U
12672-29-6	Aroclor 1248	95	< 95 U
11097-69-1	**Aroclor 1254**	**95**	**570**
11096-82-5	**Aroclor 1260**	**95**	**280**
11104-28-2	Aroclor 1221	95	< 95 U
11141-16-5	Aroclor 1232	95	< 95 U
37324-23-5	Aroclor 1262	95	< 95 U
11100-14-4	Aroclor 1268	95	< 95 U

Reported in µg/kg (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	114%
Tetrachlorometaxylene	105%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082A
Extraction Method: SW3546

Sample ID: 266-S14-1+13
SAMPLE

Lab Sample ID: AML7B
LIMS ID: 15-16294
Matrix: Soil
Data Release Authorized: MW
Reported: 09/16/15

QC Report No: AML7-Jorgensen Forge
Project: JFOS3
Date Sampled: 09/15/15
Date Received: 09/15/15

Date Extracted: 09/15/15
Date Analyzed: 09/16/15 08:35
Instrument/Analyst: ECD7/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes
Florisil Cleanup: No

Sample Amount: 5.17 g-dry-wt
Final Extract Volume: 5.00 mL
Dilution Factor: 1.00
Silica Gel: No

Percent Moisture: 14.0%

CAS Number	Analyte	LOQ	Result
12674-11-2	Aroclor 1016	19	< 19 U
53469-21-9	Aroclor 1242	19	< 19 U
12672-29-6	Aroclor 1248	19	< 19 U
11097-69-1	Aroclor 1254	19	< 19 U
11096-82-5	Aroclor 1260	19	< 19 U
11104-28-2	Aroclor 1221	19	< 19 U
11141-16-5	Aroclor 1232	19	< 19 U
37324-23-5	Aroclor 1262	19	< 19 U
11100-14-4	Aroclor 1268	19	< 19 U

Reported in µg/kg (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	94.2%
Tetrachlorometaxylene	94.8%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082A
Extraction Method: SW3546

Sample ID: 266-S14-1+13
MATRIX SPIKE

Lab Sample ID: AML7B
LIMS ID: 15-16294
Matrix: Soil
Data Release Authorized: MW
Reported: 09/16/15

QC Report No: AML7-Jorgensen Forge
Project: JFOS3

Date Sampled: 09/15/15
Date Received: 09/15/15

Date Extracted: 09/15/15
Date Analyzed: 09/16/15 10:01
Instrument/Analyst: ECD7/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes
Florisil Cleanup: No

Sample Amount: 5.19 g-dry-wt
Final Extract Volume: 5.00 mL
Dilution Factor: 1.00
Silica Gel: No

Percent Moisture: 14.0%

CAS Number	Analyte	LOQ	Result
12674-11-2	Aroclor 1016	19	---
53469-21-9	Aroclor 1242	19	< 19 U
12672-29-6	Aroclor 1248	19	< 19 U
11097-69-1	Aroclor 1254	19	< 19 U
11096-82-5	Aroclor 1260	19	---
11104-28-2	Aroclor 1221	19	< 19 U
11141-16-5	Aroclor 1232	19	< 19 U
37324-23-5	Aroclor 1262	19	< 19 U
11100-14-4	Aroclor 1268	19	< 19 U

Reported in µg/kg (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	89.5%
Tetrachlorometaxylene	93.2%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082A
Extraction Method: SW3546

Sample ID: 266-S14-1+13
MATRIX SPIKE DUP

Lab Sample ID: AML7B
LIMS ID: 15-16294
Matrix: Soil
Data Release Authorized: MW
Reported: 09/16/15

QC Report No: AML7-Jorgensen Forge
Project: JFOS3
Date Sampled: 09/15/15
Date Received: 09/15/15

Date Extracted: 09/15/15
Date Analyzed: 09/16/15 10:22
Instrument/Analyst: ECD7/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes
Florisil Cleanup: No

Sample Amount: 5.19 g-dry-wt
Final Extract Volume: 5.00 mL
Dilution Factor: 1.00
Silica Gel: No

Percent Moisture: 14.0%

CAS Number	Analyte	LOQ	Result
12674-11-2	Aroclor 1016	19	---
53469-21-9	Aroclor 1242	19	< 19 U
12672-29-6	Aroclor 1248	19	< 19 U
11097-69-1	Aroclor 1254	19	< 19 U
11096-82-5	Aroclor 1260	19	---
11104-28-2	Aroclor 1221	19	< 19 U
11141-16-5	Aroclor 1232	19	< 19 U
37324-23-5	Aroclor 1262	19	< 19 U
11100-14-4	Aroclor 1268	19	< 19 U

Reported in µg/kg (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	91.2%
Tetrachlorometaxylene	94.2%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082A
Extraction Method: SW3546

Sample ID: 266-W13-1+11
SAMPLE

Lab Sample ID: AML7C
LIMS ID: 15-16295
Matrix: Soil
Data Release Authorized: MW
Reported: 09/16/15

QC Report No: AML7-Jorgensen Forge
Project: JFOS3

Date Sampled: 09/15/15
Date Received: 09/15/15

Date Extracted: 09/15/15
Date Analyzed: 09/16/15 08:57
Instrument/Analyst: ECD7/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes
Florisil Cleanup: No

Sample Amount: 5.70 g-dry-wt
Final Extract Volume: 5.00 mL
Dilution Factor: 1.00
Silica Gel: No

Percent Moisture: 5.2%

CAS Number	Analyte	LOQ	Result
12674-11-2	Aroclor 1016	18	< 18 U
53469-21-9	Aroclor 1242	18	< 18 U
12672-29-6	Aroclor 1248	18	< 18 U
11097-69-1	Aroclor 1254	18	< 18 U
11096-82-5	Aroclor 1260	18	< 18 U
11104-28-2	Aroclor 1221	18	< 18 U
11141-16-5	Aroclor 1232	18	< 18 U
37324-23-5	Aroclor 1262	18	< 18 U
11100-14-4	Aroclor 1268	18	< 18 U

Reported in µg/kg (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	95.0%
Tetrachlorometaxylene	94.5%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082A
Extraction Method: SW3546

Sample ID: 266-E15-1+11
SAMPLE

Lab Sample ID: AML7D
LIMS ID: 15-16296
Matrix: Soil
Data Release Authorized: MW
Reported: 09/16/15

QC Report No: AML7-Jorgensen Forge
Project: JFOS3
Date Sampled: 09/15/15
Date Received: 09/15/15

Date Extracted: 09/15/15
Date Analyzed: 09/16/15 09:18
Instrument/Analyst: ECD7/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes
Florisil Cleanup: No

Sample Amount: 5.16 g-dry-wt
Final Extract Volume: 5.00 mL
Dilution Factor: 1.00
Silica Gel: No

Percent Moisture: 14.7%

CAS Number	Analyte	LOQ	Result
12674-11-2	Aroclor 1016	19	< 19 U
53469-21-9	Aroclor 1242	19	< 19 U
12672-29-6	Aroclor 1248	19	< 19 U
11097-69-1	Aroclor 1254	29	< 29 Y
11096-82-5	**Aroclor 1260**	**19**	**220**
11104-28-2	Aroclor 1221	19	< 19 U
11141-16-5	Aroclor 1232	19	< 19 U
37324-23-5	Aroclor 1262	19	< 19 U
11100-14-4	Aroclor 1268	19	< 19 U

Reported in µg/kg (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	102%
Tetrachlorometaxylene	94.2%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082A
Extraction Method: SW3546

Sample ID: 266-B11-1+9
SAMPLE

Lab Sample ID: AML7E
LIMS ID: 15-16297
Matrix: Soil
Data Release Authorized: MW
Reported: 09/16/15

QC Report No: AML7-Jorgensen Forge
Project: JFOS3

Date Sampled: 09/15/15
Date Received: 09/15/15

Date Extracted: 09/15/15
Date Analyzed: 09/16/15 09:39
Instrument/Analyst: ECD7/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes
Florisil Cleanup: No

Sample Amount: 5.17 g-dry-wt
Final Extract Volume: 5.00 mL
Dilution Factor: 5.00
Silica Gel: No

Percent Moisture: 14.1%

CAS Number	Analyte	LOQ	Result
12674-11-2	Aroclor 1016	97	< 97 U
53469-21-9	Aroclor 1242	97	< 97 U
12672-29-6	Aroclor 1248	97	< 97 U
11097-69-1	**Aroclor 1254**	**97**	**820**
11096-82-5	**Aroclor 1260**	**97**	**320**
11104-28-2	Aroclor 1221	97	< 97 U
11141-16-5	Aroclor 1232	97	< 97 U
37324-23-5	Aroclor 1262	97	< 97 U
11100-14-4	Aroclor 1268	97	< 97 U

Reported in µg/kg (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	110%
Tetrachlorometaxylene	99.2%

ANALYTICAL RESOURCES INCORPORATED

SW8082/PCB SOIL/SOLID/SEDIMENT SURROGATE RECOVERY SUMMARY

Matrix: Soil

QC Report No: AML7-Jorgensen Forge
Project: JFOS3

Client ID	DCBP % REC	DCBP LCL-UCL	TCMX % REC	TCMX LCL-UCL	TOT OUT
266-N12-1+13	114%	47-120	105%	53-116	0
MB-091515	96.2%	59-115	95.0%	58-112	0
LCS-091515	96.8%	59-115	94.8%	58-112	0
266-S14-1+13	94.2%	47-120	94.8%	53-116	0
266-S14-1+13 MS	89.5%	47-120	93.2%	53-116	0
266-S14-1+13 MSD	91.2%	47-120	94.2%	53-116	0
266-W13-1+11	95.0%	47-120	94.5%	53-116	0
266-E15-1+11	102%	47-120	94.2%	53-116	0
266-B11-1+9	110%	47-120	99.2%	53-116	0

Microwave (MARS) Control Limits PCBSMI
Prep Method: SW3546
Log Number Range: 15-16293 to 15-16297

FORM-II SW8082

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082A

Sample ID: 266-S14-1+13
MS/MSD

Lab Sample ID: AML7B
LIMS ID: 15-16294
Matrix: Soil
Data Release Authorized: MW
Reported: 09/16/15

QC Report No: AML7-Jorgensen Forge
Project: JFOS3

Date Sampled: 09/15/15
Date Received: 09/15/15

Date Extracted MS/MSD: 09/15/15

Date Analyzed MS: 09/16/15 10:01
MSD: 09/16/15 10:22
Instrument/Analyst MS: ECD7/JGR
MSD: ECD7/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes
Florisil Cleanup: No

Sample Amount MS: 5.19 g-dry-wt
MSD: 5.19 g-dry-wt
Final Extract Volume MS: 5.0 mL
MSD: 5.0 mL
Dilution Factor MS: 1.00
MSD: 1.00
Silica Gel: No

Percent Moisture: 14.0%

Analyte	Sample	MS	Spike Added-MS	MS Recovery	MSD	Spike Added-MSD	MSD Recovery	RPD
Aroclor 1016	< 19 U	446	482	92.5%	451	482	93.6%	1.1%
Aroclor 1260	< 19 U	487	482	101%	491	482	102%	0.8%

Results reported in µg/kg (ppb)
RPD calculated using sample concentrations per SW846.

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082A

Sample ID: LCS-091515
LAB CONTROL

Lab Sample ID: LCS-091515
LIMS ID: 15-16294
Matrix: Soil
Data Release Authorized: MW
Reported: 09/16/15

QC Report No: AML7-Jorgensen Forge
Project: JFOS3

Date Sampled: NA
Date Received: NA

Date Extracted: 09/15/15
Date Analyzed: 09/16/15 11:05
Instrument/Analyst: ECD7/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes
Florisil Cleanup: No

Sample Amount: 5.00 g-dry-wt
Final Extract Volume: 5.00 mL
Dilution Factor: 1.00
Silica Gel: No

Percent Moisture: NA

Analyte	Lab Control	Spike Added	Recovery
Aroclor 1016	471	500	94.2%
Aroclor 1260	519	500	104%

PCB Surrogate Recovery

Decachlorobiphenyl	96.8%
Tetrachlorometaxylene	94.8%

Results reported in µg/kg (ppb)

PCB METHOD BLANK SUMMARY

BLANK NO.

AML7MBS1

Lab Name: ANALYTICAL RESOURCES INC

Client: JORGENSEN FORGE

ARI Job No.: AML7

Project: JFOS3

Lab Sample ID: AML7MBS1

Lab File ID: 09161512

Date Extracted: 09/15/15

Matrix: SOLID

Date Analyzed: 09/16/15

Instrument ID: ECD7

Time Analyzed: 1043

GC Columns: ZB5/ZB35

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS and MSD:

	CLIENT SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED
01	266-N12-1+13	AML7A	09/16/15
02	266-S14-1+13	AML7B	09/16/15
03	266-W13-1+11	AML7C	09/16/15
04	266-E15-1+11	AML7D	09/16/15
05	266-B11-1+9	AML7E	09/16/15
06	266-S14-1+13 MS	AML7BMS	09/16/15
07	266-S14-1+13 MSD	AML7BMSD	09/16/15
08	AML7LCSS1	AML7LCSS1	09/16/15

ALL RUNS ARE DUAL COLUMN

6F

8082 INITIAL CALIBRATION OF AROCLOR 1016/1260

Lab Name: ANALYTICAL RESOURCES INC Client: JORGENSEN

ARI Job No.: AML7 Project: JFOS3

GC Column: ZB5 Instrument ID: ECD7

Calibration Date: 08/03/15

SURROGATES

RT WIN	LVL1	LVL2	LVL3	LVL4	LVL5	LVL6	MEAN	%RSD
TCX 6.17- 6.37	0.4595	0.5114	0.5438	0.5434	0.5583	0.5704	0.5312	7.6
DCB 14.74-14.94	1.7111	1.7198	1.4821	1.4035	1.2882	1.3482	1.4921	12.4

Aroclor-1016 Peak RT WIN	LVL1 .02	LVL2 0.05	LVL3 0.1	LVL4 .25	LVL5 0.5	LVL6 1.0	MEAN	%RSD R^2
1 8.18- 8.38	0.0127	0.0137	0.0140	0.0130	0.0125	0.0119	0.0129	6.0
2 8.67- 8.87	0.0388	0.0418	0.0425	0.0396	0.0390	0.0384	0.0400	4.3
3 8.96- 9.16	0.0123	0.0144	0.0149	0.0140	0.0138	0.0134	0.0138	6.5
4 9.75- 9.95	0.0139	0.0149	0.0160	0.0148	0.0146	0.0141	0.0147	4.9

AROCLOR AVERAGE %RSD = 5.4

Aroclor-1260 Peak RT WIN	LVL1 .02	LVL2 0.05	LVL3 0.1	LVL4 .25	LVL5 0.5	LVL6 1.0	MEAN	%RSD R^2
1 12.31-12.51	0.0491	0.0528	0.0511	0.0511	0.0472	0.0497	0.0502	3.9
2 12.98-13.18	0.1300	0.1509	0.1533	0.1635	0.1585	0.1747	0.1551	9.6
3 13.36-13.56	0.0548	0.0622	0.0625	0.0650	0.0614	0.0659	0.0620	6.4
4 13.46-13.66	0.0356	0.0404	0.0408	0.0424	0.0400	0.0425	0.0403	6.3
5 13.86-14.06	0.0162	0.0197	0.0199	0.0205	0.0194	0.0207	0.0194	8.4

AROCLOR AVERAGE %RSD = 6.9

6F

8082 INITIAL CALIBRATION OF AROCLOR 1016/1260

Lab Name: ANALYTICAL RESOURCES INC Client: JORGENSEN

ARI Job No.: AML7 Project: JFOS3

GC Column: ZB35 Instrument ID: ECD7

Calibration Date: 08/03/15

SURROGATES

RT WIN	LVL1	LVL2	LVL3	LVL4	LVL5	LVL6	MEAN	%RSD
TCX 6.56- 6.76	0.9749	1.0337	1.0794	1.0345	1.0222	0.9958	1.0234	3.5
DCB 15.22-15.42	1.1059	1.0972	1.1143	1.0244	1.0035	0.9886	1.0556	5.3

Aroclor-1016 Peak RT WIN	LVL1 .02	LVL2 0.05	LVL3 0.1	LVL4 .25	LVL5 0.5	LVL6 1.0	MEAN	%RSD R^2
1 8.67- 8.87	0.0481	0.0478	0.0466	0.0414	0.0386	0.0357	0.0430	12.2
2 9.38- 9.58	0.0957	0.0955	0.0955	0.0864	0.0833	0.0792	0.0893	8.2
3 9.80-10.00	0.0250	0.0256	0.0255	0.0230	0.0217	0.0205	0.0236	9.1
4 10.35-10.55	0.0339	0.0347	0.0339	0.0302	0.0285	0.0267	0.0313	10.5

AROCLOR AVERAGE %RSD = 10.0

Aroclor-1260 Peak RT WIN	LVL1 .02	LVL2 0.05	LVL3 0.1	LVL4 .25	LVL5 0.5	LVL6 1.0	MEAN	%RSD R^2
1 12.90-13.10	0.0940	0.0922	0.0897	0.0799	0.0745	0.0713	0.0836	11.5
2 13.56-13.76	0.1992	0.2005	0.1998	0.1867	0.1792	0.1768	0.1904	5.7
3 13.99-14.19	0.0651	0.0649	0.0637	0.0574	0.0536	0.0519	0.0594	10.0
4 14.04-14.24	0.1332	0.1340	0.1333	0.1212	0.1155	0.1129	0.1250	7.7

AROCLOR AVERAGE %RSD = 8.7

6G

8082 INITIAL CALIBRATION OF SINGLE POINT PCBs

Lab Name: ANALYTICAL RESOURCES INC Client: JORGENSEN

ARI Job No.: AML7 Project: JFOS3

GC Column: ZB5 Instrument ID: ECD7

Calibration Date: 08/03/15

Aroclor-1221			
Peak	RT	RT WIN	Cal Factor
1	4.946	4.85- 5.05	0.00300
2	6.923	6.82- 7.02	0.00486
3	7.047	6.95- 7.15	0.01455

Aroclor-1232			
Peak	RT	RT WIN	Cal Factor
1	4.946	4.85- 5.05	0.00172
2	7.046	6.95- 7.15	0.00980
3	8.759	8.66- 8.86	0.01696
4	9.658	9.56- 9.76	0.00541

Aroclor-1242			
Peak	RT	RT WIN	Cal Factor
1	8.764	8.66- 8.86	0.03076
2	9.062	8.96- 9.16	0.01109
3	10.297	10.20-10.40	0.01405
4	10.543	10.44-10.64	0.01578

Aroclor-1248			
Peak	RT	RT WIN	Cal Factor
1	9.406	9.31- 9.51	0.00882
2	9.849	9.75- 9.95	0.02086
3	10.299	10.20-10.40	0.02446
4	10.545	10.44-10.64	0.02496

6G

8082 INITIAL CALIBRATION OF SINGLE POINT PCBs

Lab Name: ANALYTICAL RESOURCES INC Client: JORGENSEN

ARI Job No.: AML7 Project: JFOS3

GC Column: ZB5 Instrument ID: ECD7

Calibration Date: 08/03/15

Aroclor-1254			
Peak	RT	RT WIN	Cal Factor
1	10.290	10.19-10.39	0.01523
2	10.612	10.51-10.71	0.02246
3	10.995	10.89-11.09	0.01795
4	11.132	11.03-11.23	0.03393
5	11.849	11.75-11.95	0.02473

Aroclor-1262			
Peak	RT	RT WIN	Cal Factor
1	12.408	12.31-12.51	0.10383
2	13.085	12.99-13.19	0.27054
3	13.461	13.36-13.56	0.07188
4	13.625	13.52-13.72	0.12224
5	14.171	14.07-14.27	0.10332

Aroclor-1268			
Peak	RT	RT WIN	Cal Factor
1	13.561	13.46-13.66	0.24308
2	13.623	13.52-13.72	0.23035
3	13.949	13.85-14.05	0.20684
4	14.555	14.46-14.66	0.63060

6G

8082 INITIAL CALIBRATION OF SINGLE POINT PCBs

Lab Name: ANALYTICAL RESOURCES INC Client: JORGENSEN

ARI Job No.: AML7 Project: JFOS3

GC Column: ZB35 Instrument ID: ECD7

Calibration Date: 08/03/15

Aroclor-1221			
Peak	RT	RT WIN	Cal Factor
1	5.744	5.64- 5.84	0.00821
2	7.471	7.37- 7.57	0.01368
3	7.773	7.67- 7.87	0.00799
4	7.913	7.81- 8.01	0.02412

Aroclor-1232			
Peak	RT	RT WIN	Cal Factor
1	5.744	5.64- 5.84	0.00506
2	7.912	7.81- 8.01	0.01726
3	8.762	8.66- 8.86	0.01985
4	9.890	9.79- 9.99	0.01037

Aroclor-1242			
Peak	RT	RT WIN	Cal Factor
1	8.773	8.67- 8.87	0.03253
2	9.479	9.38- 9.58	0.06762
3	10.901	10.80-11.00	0.02930
4	11.342	11.24-11.44	0.02943

Aroclor-1248			
Peak	RT	RT WIN	Cal Factor
1	9.473	9.37- 9.57	0.04417
2	10.448	10.35-10.55	0.03719
3	10.983	10.88-11.08	0.03822
4	11.344	11.24-11.44	0.04818

6G

8082 INITIAL CALIBRATION OF SINGLE POINT PCBs

Lab Name: ANALYTICAL RESOURCES INC Client: JORGENSEN

ARI Job No.: AML7 Project: JFOS3

GC Column: ZB35 Instrument ID: ECD7

Calibration Date: 08/03/15

Aroclor-1254			
Peak	RT	RT WIN	Cal Factor
1	11.200	11.10-11.30	0.04173
2	11.298	11.20-11.40	0.01974
3	11.738	11.64-11.84	0.03299
4	11.891	11.79-11.99	0.06503
5	12.672	12.57-12.77	0.04305

Aroclor-1262			
Peak	RT	RT WIN	Cal Factor
1	12.993	12.89-13.09	0.15518
2	13.428	13.33-13.53	0.14324
3	13.656	13.56-13.76	0.29125
4	14.091	13.99-14.19	0.12507
5	14.686	14.59-14.79	0.09594

Aroclor-1268			
Peak	RT	RT WIN	Cal Factor
1	14.090	13.99-14.19	0.21797
2	14.144	14.04-14.24	0.20396
3	14.454	14.35-14.55	0.16487
4	15.033	14.93-15.13	0.46628

7F

PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES INC Client: JORGENSEN

ARI Job No.: AML7 Project: JFOS3

GC Column: ZB5 Intrument: ECD7

Init. Calib. Date: 08/03/15

Date Analyzed :09/16/15

Lab Standard ID: AR1254 Time Analyzed :0710

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1254-1	10.29	10.19	10.39	251.8	250.0	0.7
Aroclor-1254-2	10.61	10.51	10.71	277.3	250.0	10.9
Aroclor-1254-3	10.99	10.89	11.09	289.2	250.0	15.7
Aroclor-1254-4	11.13	11.03	11.23	287.1	250.0	14.8
Aroclor-1254-5	11.85	11.75	11.95	271.7	250.0	8.7

AROCLOR AVG: 275.4 CAL %D = 10.2

7F

PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES INC Client: JORGENSEN

ARI Job No.: AML7 Project: JFOS3

GC Column: ZB5 Intrument: ECD7

Init. Calib. Date: 08/03/15

Date Analyzed :09/16/15

Lab Standard ID: AR1660 Time Analyzed :0731

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1016-1	8.26	8.18	8.38	243.9	250.0	-2.4
Aroclor-1016-2	8.75	8.67	8.87	241.9	250.0	-3.2
Aroclor-1016-3	9.05	8.96	9.16	246.8	250.0	-1.3
Aroclor-1016-4	9.84	9.75	9.95	250.6	250.0	0.2

AROCLOR AVG: 245.8 CAL %D = -1.7

Date Analyzed :09/16/15

Lab Standard ID: AR1660 Time Analyzed :0731

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1260-1	12.40	12.31	12.51	274.1	250.0	9.6
Aroclor-1260-2	13.08	12.98	13.18	269.4	250.0	7.8
Aroclor-1260-3	13.45	13.36	13.56	268.4	250.0	7.3
Aroclor-1260-4	13.55	13.46	13.66	264.1	250.0	5.6
Aroclor-1260-5	13.96	13.86	14.06	267.3	250.0	6.9

AROCLOR AVG: 268.7 CAL %D = 7.5

7F

PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES INC Client: JORGENSEN

ARI Job No.: AML7 Project: JFOS3

GC Column: ZB5 Intrument: ECD7

Init. Calib. Date: 08/03/15

Date Analyzed :09/16/15

Lab Standard ID: AR1248 Time Analyzed :1209

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1248-1	9.41	9.31	9.51	274.1	250.0	9.6
Aroclor-1248-2	9.85	9.75	9.95	276.8	250.0	10.7
Aroclor-1248-3	10.30	10.20	10.40	272.5	250.0	9.0
Aroclor-1248-4	10.54	10.44	10.64	280.8	250.0	12.3

AROCLOR AVG: 276.0 CAL %D = 10.4

7F

PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES INC Client: JORGENSEN

ARI Job No.: AML7 Project: JFOS3

GC Column: ZB5 Intrument: ECD7

Init. Calib. Date: 08/03/15

Date Analyzed :09/16/15

Lab Standard ID: AR1660 Time Analyzed :1230

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1016-1	8.28	8.18	8.38	247.7	250.0	-0.9
Aroclor-1016-2	8.77	8.67	8.87	246.2	250.0	-1.5
Aroclor-1016-3	9.06	8.96	9.16	251.3	250.0	0.5
Aroclor-1016-4	9.85	9.75	9.95	254.7	250.0	1.9

AROCLOR AVG: 250.0 CAL %D = 0.0

Date Analyzed :09/16/15

Lab Standard ID: AR1660 Time Analyzed :1230

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1260-1	12.41	12.31	12.51	274.5	250.0	9.8
Aroclor-1260-2	13.08	12.98	13.18	269.8	250.0	7.9
Aroclor-1260-3	13.46	13.36	13.56	268.9	250.0	7.6
Aroclor-1260-4	13.56	13.46	13.66	264.7	250.0	5.9
Aroclor-1260-5	13.96	13.86	14.06	268.0	250.0	7.2

AROCLOR AVG: 269.2 CAL %D = 7.7

7F

PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES INC Client: JORGENSEN

ARI Job No.: AML7 Project: JFOS3

GC Column: ZB35 Intrument: ECD7

Init. Calib. Date: 08/03/15

Date Analyzed :09/16/15

Lab Standard ID: AR1254 Time Analyzed :0710

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1254-1	11.20	11.10	11.30	249.8	250.0	-0.1
Aroclor-1254-2	11.30	11.20	11.40	254.3	250.0	1.7
Aroclor-1254-3	11.74	11.64	11.84	255.5	250.0	2.2
Aroclor-1254-4	11.89	11.79	11.99	249.5	250.0	-0.2
Aroclor-1254-5	12.67	12.57	12.77	245.8	250.0	-1.7

AROCLOR AVG: 251.0 CAL %D = 0.4

7F

PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES INC Client: JORGENSEN

ARI Job No.: AML7 Project: JFOS3

GC Column: ZB35 Intrument: ECD7

Init. Calib. Date: 08/03/15

Date Analyzed :09/16/15

Lab Standard ID: AR1660 Time Analyzed :0731

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1016-1	8.76	8.67	8.87	239.2	250.0	-4.3
Aroclor-1016-2	9.47	9.38	9.58	243.7	250.0	-2.5
Aroclor-1016-3	9.89	9.80	10.00	247.3	250.0	-1.1
Aroclor-1016-4	10.44	10.35	10.55	187.9	250.0	-24.8

AROCLOR AVG: 229.5 CAL %D = -8.2

Date Analyzed :09/16/15

Lab Standard ID: AR1660 Time Analyzed :0731

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1260-1	12.99	12.90	13.10	226.6	250.0	-9.4
Aroclor-1260-2	13.65	13.56	13.76	228.4	250.0	-8.6
Aroclor-1260-3	14.09	13.99	14.19	222.2	250.0	-11.1
Aroclor-1260-4	14.14	14.04	14.24	225.6	250.0	-9.8

AROCLOR AVG: 225.7 CAL %D = -9.7

7F

PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES INC Client: JORGENSEN

ARI Job No.: AML7 Project: JFOS3

GC Column: ZB35 Intrument: ECD7

Init. Calib. Date: 08/03/15

Date Analyzed :09/16/15

Lab Standard ID: AR1248 Time Analyzed :1209

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1248-1	9.47	9.37	9.57	247.3	250.0	-1.1
Aroclor-1248-2	10.45	10.35	10.55	197.8	250.0	-20.9
Aroclor-1248-3	10.98	10.88	11.08	251.5	250.0	0.6
Aroclor-1248-4	11.34	11.24	11.44	252.2	250.0	0.9

AROCLOR AVG: 237.2 CAL %D = -5.1

7F

PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES INC Client: JORGENSEN

ARI Job No.: AML7 Project: JFOS3

GC Column: ZB35 Intrument: ECD7

Init. Calib. Date: 08/03/15

Date Analyzed :09/16/15

Lab Standard ID: AR1660 Time Analyzed :1230

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1016-1	8.77	8.67	8.87	237.9	250.0	-4.8
Aroclor-1016-2	9.48	9.38	9.58	243.0	250.0	-2.8
Aroclor-1016-3	9.90	9.80	10.00	247.4	250.0	-1.0
Aroclor-1016-4	10.45	10.35	10.55	190.9	250.0	-23.6

AROCLOR AVG: 229.8 CAL %D = -8.1

Date Analyzed :09/16/15

Lab Standard ID: AR1660 Time Analyzed :1230

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1260-1	13.00	12.90	13.10	224.6	250.0	-10.2
Aroclor-1260-2	13.66	13.56	13.76	226.7	250.0	-9.3
Aroclor-1260-3	14.09	13.99	14.19	223.7	250.0	-10.5
Aroclor-1260-4	14.14	14.04	14.24	226.5	250.0	-9.4

AROCLOR AVG: 225.4 CAL %D = -9.8

FORM 8

PCB INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ANALYTICAL RESOURCES INC Client: JORGENSEN

ARI Job No.: AML7 Project: JFOS3

GC Column: ZB5 ID: 0.53(mm) Instrument ID: ECD7

Init. Calib. Date: 08/03/15

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS, SAMPLES, AND STANDARDS IS GIVEN BELOW:

					IS1 AREA	RT	IS2 AREA	RT
				ICAL MIDPT	6328212	3.263	5068453	15.102
				UPPER LIMIT	12656424	3.363	10136906	15.202
				LOWER LIMIT	3164106	3.163	2534226	15.002

	CLIENT SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED	TIME	IS1 AREA	RT	IS2 AREA	RT
01	ZZZZZ	ZZZZZ	08/03/15	1716	6222621	3.258	5047030	15.102
02		0.25PPMAR166	08/03/15	1737	6328212	3.263	5068453	15.102
03		0.02PPMAR166	08/03/15	1758	6326177	3.262	5154907	15.102
04		0.05PPMAR166	08/03/15	1820	6210580	3.264	5033371	15.102
05		1PPMAR1660	08/03/15	1841	6160991	3.266	4985647	15.103
06		0.1PPMAR1660	08/03/15	1902	6344317	3.268	5407220	15.103
07		0.5PPMAR1660	08/03/15	1924	6159955	3.267	5303929	15.103
08		AR1242	08/03/15	1945	6219986	3.265	5066767	15.103
09		AR1248	08/03/15	2007	6249050	3.265	5356854	15.103
10		AR1254	08/03/15	2028	6326911	3.267	5032449	15.103
11		AR2162	08/03/15	2049	6246099	3.266	4938617	15.103
12		AR3268	08/03/15	2111	6259531	3.265	5003661	15.103
13	ZZZZZ	ZZZZZ	08/03/15	2132	6338133	3.267	5037306	15.103
14	ZZZZZ	ZZZZZ	08/03/15	2153	6038309	3.262	5048403	15.103
15	ZZZZZ	ZZZZZ	08/03/15	2214	6208035	3.265	5032536	15.103
16	ZZZZZ	ZZZZZ	08/03/15	2236	6278544	3.265	5100405	15.103
17	ZZZZZ	ZZZZZ	08/03/15	2257	6251565	3.264	5061467	15.103
18	ZZZZZ	ZZZZZ	08/03/15	2318	6317415	3.264	5061451	15.102
19		AR1254	09/16/15	0710	7990804	3.252	6207401	15.094
20		AR1660	09/16/15	0731	7366290	3.261	5462240	15.095
21	266-N12-1+13	AML7A	09/16/15	0814	7474305	3.276	5798033	15.096
22	266-S14-1+13	AML7B	09/16/15	0835	7550604	3.277	5736206	15.096
23	266-W13-1+11	AML7C	09/16/15	0857	7740105	3.277	5909287	15.096
24	266-E15-1+11	AML7D	09/16/15	0918	7604522	3.277	5883792	15.096
25	266-B11-1+9	AML7E	09/16/15	0939	7541461	3.277	5778504	15.096
26	266-S14-1+13	AML7BMS	09/16/15	1001	7737559	3.278	5842768	15.097
27	266-S14-1+13	AML7BMSD	09/16/15	1022	7681627	3.281	5866888	15.097
28	AML7MBS1	AML7MBS1	09/16/15	1043	7262802	3.280	5610540	15.097
29	AML7LCSS1	AML7LCSS1	09/16/15	1105	7630648	3.280	5897148	15.097
30		AR1248	09/16/15	1209	8557493	3.276	6474352	15.096
31		AR1660	09/16/15	1230	7391821	3.278	5586486	15.097

IS1 = 1-Bromo-2-Nitrobenzene RT Window = RT +/- 0.1 min

IS2 = Hexabromobiphenyl

FORM 8
PCB INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ANALYTICAL RESOURCES INC Client: JORGENSEN

ARI Job No.: AML7 Project: JFOS3

GC Column: ZB35 ID: 0.53(mm) Instrument ID: ECD7

Init. Calib. Date: 08/03/15

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS, SAMPLES, AND STANDARDS IS GIVEN BELOW:

					IS1 AREA	RT	IS2 AREA	RT
				ICAL MIDPT	12901249	4.365	7598346	15.906
				UPPER LIMIT	25802498	4.465	15196692	16.006
				LOWER LIMIT	6450624	4.265	3799173	15.806
	CLIENT SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED	TIME	IS1 AREA	RT	IS2 AREA	RT
01	ZZZZZ	ZZZZZ	08/03/15	1716	12615423	4.360	7577981	15.906
02		0.25PPMAR166	08/03/15	1737	12901249	4.365	7598346	15.906
03		0.02PPMAR166	08/03/15	1758	12889538	4.366	7674080	15.906
04		0.05PPMAR166	08/03/15	1820	12701605	4.367	7596138	15.906
05		1PPMAR1660	08/03/15	1841	12722963	4.369	7648810	15.907
06		0.1PPMAR1660	08/03/15	1902	13013744	4.371	7786984	15.907
07		0.5PPMAR1660	08/03/15	1924	12706249	4.370	7776969	15.907
08		AR1242	08/03/15	1945	12825517	4.369	7804063	15.906
09		AR1248	08/03/15	2007	12932061	4.369	7871936	15.906
10		AR1254	08/03/15	2028	13098041	4.370	7793570	15.907
11		AR2162	08/03/15	2049	12808024	4.369	7735916	15.907
12		AR3268	08/03/15	2111	12831845	4.369	7828166	15.907
13	ZZZZZ	ZZZZZ	08/03/15	2132	13048327	4.369	7840797	15.907
14	ZZZZZ	ZZZZZ	08/03/15	2153	12451023	4.366	7728754	15.907
15	ZZZZZ	ZZZZZ	08/03/15	2214	12732082	4.367	7695088	15.907
16	ZZZZZ	ZZZZZ	08/03/15	2236	12892489	4.368	7804248	15.906
17	ZZZZZ	ZZZZZ	08/03/15	2257	12666986	4.367	7848857	15.907
18	ZZZZZ	ZZZZZ	08/03/15	2318	12781896	4.367	7841933	15.907
19		AR1254	09/16/15	0710	13466058	4.355	8335929	15.904
20		AR1660	09/16/15	0731	12624851	4.369	7778737	15.904
21	266-N12-1+13	AML7A	09/16/15	0814	13147937	4.385	8352193	15.906
22	266-S14-1+13	AML7B	09/16/15	0835	13035043	4.387	8274155	15.906
23	266-W13-1+11	AML7C	09/16/15	0857	13614674	4.387	8337711	15.906
24	266-E15-1+11	AML7D	09/16/15	0918	13440354	4.387	8044619	15.906
25	266-B11-1+9	AML7E	09/16/15	0939	13411540	4.388	8167613	15.906
26	266-S14-1+13	AML7BMS	09/16/15	1001	13649840	4.389	8665907	15.906
27	266-S14-1+13	AML7BMSD	09/16/15	1022	13586001	4.390	8398690	15.906
28	AML7MBS1	AML7MBS1	09/16/15	1043	13072974	4.389	8146448	15.906
29	AML7LCSS1	AML7LCSS1	09/16/15	1105	13626900	4.390	8389543	15.906
30		AR1248	09/16/15	1209	15205120	4.386	9776066	15.907
31		AR1660	09/16/15	1230	13284494	4.388	8363407	15.907

IS1 = 1-Bromo-2-Nitrobenzene RT Window = RT +/- 0.1 min
IS2 = Hexabromobiphenyl

Analytical Resources, Inc. Report No. AMN4

Analytical Resources, Incorporated
Analytical Chemists and Consultants

17 September 2015

Dee Gardner
Sound Earth Strategies, Inc.
2811 Fairview Avenue East, Suite 2000
Seattle, WA 98102

RE: JFOS3
ARI Job No.: AMN4

Dear Dee:

Please find enclosed the original chain of custody record and the final results for the samples from the project referenced above. Analytical Resources, Inc. received two soil samples on September 16, 2015. The samples were analyzed for PCBs as requested.

These analyses proceeded without incident of note.

If you have any questions regarding these results, please feel free to contact me at your convenience.

Sincerely,

ANALYTICAL RESOURCES, INC.

Mark D. Harris
Project Manager
206/695-6210
markh@arilabs.com

cc: Miles Dyer, Jorgensen Forge
file AMN4

Enclosures

Chain of Custody Record & Laboratory Analysis Request

ARI Assigned Number: AMN4	Turn-around Requested: 24 HOURS	Page: 1 of 1	
ARI Client Company: JORGENSEN FORGE CORP. Phone: 206.762.1100		Date: 9/15/16	Ice Present? YES
Client Contact: MILES DYER		No. of Coolers: 1	Cooler Temps: 4.1
Client Project Name: JFOS3			
Client Project #:	Samplers: J. LOEFFLER		

Analytical Resources, Incorporated
Analytical Chemists and Consultants
4611 South 134th Place, Suite 100
Tukwila, WA 98168
206-695-6200 206-695-6201 (fax)
www.arilabs.com

Sample ID	Date	Time	Matrix	No. Containers	Analysis Requested: PCBs by EPA 8082	Notes/Comments
CMP12-B08-1+06	9/15/15	1515	SOIL	1	X	
CMP24-B09-1+05	9/15/15	1520	SOIL	1	X	

Comments/Special Instructions	Relinquished by: (Signature)	Received by: (Signature)	Relinquished by: (Signature)	Received by: (Signature)
CC: DEE GARDNER AT SOUNDEARTH dgardner@soundearthinc.com	Printed Name: JONATHAN LOEFFLER	Printed Name: Chris Atwell	Printed Name:	Printed Name:
	Company: SOUNDEARTH	Company: ARI	Company:	Company:
	Date & Time: 9/16/15 @ 0838	Date & Time: 9/16/15 0838	Date & Time:	Date & Time:

Limits of Liability: *ARI will perform all requested services in accordance with appropriate methodology following ARI Standard Operating Procedures and the ARI Quality Assurance Program. This program meets standards for the industry. The total liability of ARI, its officers, agents, employees, or successors, arising out of or in connection with the requested services, shall not exceed the Invoiced amount for said services. The acceptance by the client of a proposal for services by ARI release ARI from any liability in excess thereof, not withstanding any provision to the contrary in any contract, purchase order or co-signed agreement between ARI and the Client.*

Sample Retention Policy: All samples submitted to ARI will be appropriately discarded no sooner than 90 days after receipt or 60 days after submission of hardcopy data, whichever is longer, unless alternate retention schedules have been established by work-order or contract.

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Cooler Receipt Form

ARI Client: Jorgensen Forge Project Name: _____

COC No(s): _____ NA Delivered by: Fed-Ex UPS Courier Hand Delivered Other: _____

Assigned ARI Job No: AMN4 Tracking No: _____ NA

Preliminary Examination Phase:

Were intact, properly signed and dated custody seals attached to the outside of to cooler?	YES	NO
Were custody papers included with the cooler?	YES	NO
Were custody papers properly filled out (ink, signed, etc.)	YES	NO

Temperature of Cooler(s) (°C) (recommended 2.0-6.0 °C for chemistry) 4.1

Time: _____

If cooler temperature is out of compliance fill out form 00070F Temp Gun ID#: D22565

Cooler Accepted by: CA Date: 9-16-15 Time: 0838

Complete custody forms and attach all shipping documents

Log-In Phase:

Was a temperature blank included in the cooler?		YES	NO
What kind of packing material was used? ... Bubble Wrap Wet Ice Gel Packs Baggies Foam Block Paper Other: _____			
Was sufficient ice used (if appropriate)?	NA	YES	NO
Were all bottles sealed in individual plastic bags?		YES	NO
Did all bottles arrive in good condition (unbroken)?		YES	NO
Were all bottle labels complete and legible?		YES	NO
Did the number of containers listed on COC match with the number of containers received?		YES	NO
Did all bottle labels and tags agree with custody papers?		YES	NO
Were all bottles used correct for the requested analyses?		YES	NO
Do any of the analyses (bottles) require preservation? (attach preservation sheet, excluding VOCs)...	NA	YES	NO
Were all VOC vials free of air bubbles?	NA	YES	NO
Was sufficient amount of sample sent in each bottle?		YES	NO
Date VOC Trip Blank was made at ARI	NA	_____	

Was Sample Split by ARI : NA YES Date/Time: _____ Equipment: _____ Split by: _____

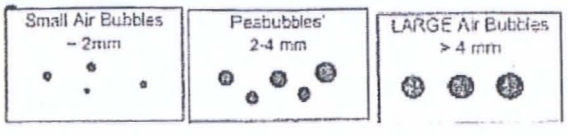
Samples Logged by: CA Date: 9-16-15 Time: 0928

*** Notify Project Manager of discrepancies or concerns ***

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Additional Notes, Discrepancies, & Resolutions:

By: Date:



Small → "sm" (< 2 mm)

Peabubbles → "pb" (2 to < 4 mm)

Large → "lg" (4 to < 6 mm)

Headspace → "hs" (> 6 mm)

Sample ID Cross Reference Report

ANALYTICAL RESOURCES INCORPORATED

ARI Job No: AMN4
Client: Jorgensen Forge
Project Event: N/A
Project Name: JFOS3

	Sample ID	ARI Lab ID	ARI LIMS ID	Matrix	Sample Date/Time	VTSR
1.	CMP12-B08-1+06	AMN4A	15-16384	Soil	09/15/15 15:15	09/16/15 08:38
2.	CMP24-B09-1+05	AMN4B	15-16385	Soil	09/15/15 15:20	09/16/15 08:38

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Data Reporting Qualifiers

Effective 12/31/13

Inorganic Data

U	Indicates that the target analyte was not detected at the reported concentration
*	Duplicate RPD is not within established control limits
B	Reported value is less than the CRDL but ≥ the Reporting Limit
N	Matrix Spike recovery not within established control limits
NA	Not Applicable, analyte not spiked
H	The natural concentration of the spiked element is so much greater than the concentration spiked that an accurate determination of spike recovery is not possible
L	Analyte concentration is ≤5 times the Reporting Limit and the replicate control limit defaults to ±1 RL instead of the normal 20% RPD

Organic Data

U	Indicates that the target analyte was not detected at the reported concentration
*	Flagged value is not within established control limits
B	Analyte detected in an associated Method Blank at a concentration greater than one-half of ARI's Reporting Limit or 5% of the regulatory limit or 5% of the analyte concentration in the sample.
J	Estimated concentration when the value is less than ARI's established reporting limits
D	The spiked compound was not detected due to sample extract dilution
E	Estimated concentration calculated for an analyte response above the valid instrument calibration range. A dilution is required to obtain an accurate quantification of the analyte.

Q Indicates a detected analyte with an initial or continuing calibration that does not meet established acceptance criteria (<20%RSD, <20%Drift or minimum RRF).

S Indicates an analyte response that has saturated the detector. The calculated concentration is not valid; a dilution is required to obtain valid quantification of the analyte

NA The flagged analyte was not analyzed for

NR Spiked compound recovery is not reported due to chromatographic interference

NS The flagged analyte was not spiked into the sample

M Estimated value for an analyte detected and confirmed by an analyst but with low spectral match parameters. This flag is used only for GC-MS analyses

N The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification"

Y The analyte is not detected at or above the reported concentration. The reporting limit is raised due to chromatographic interference. The Y flag is equivalent to the U flag with a raised reporting limit.

EMPC Estimated Maximum Possible Concentration (EMPC) defined in EPA Statement of Work DLM02.2 as a value "calculated for 2,3,7,8-substituted isomers for which the quantitation and /or confirmation ion(s) has signal to noise in excess of 2.5, but does not meet identification criteria" **(Dioxin/Furan analysis only)**

C The analyte was positively identified on only one of two chromatographic columns. Chromatographic interference prevented a positive identification on the second column

P The analyte was detected on both chromatographic columns but the quantified values differ by ≥40% RPD with no obvious chromatographic interference

X Analyte signal includes interference from polychlorinated diphenyl ethers. **(Dioxin/Furan analysis only)**

Z Analyte signal includes interference from the sample matrix or perfluorokerosene ions. **(Dioxin/Furan analysis only)**

Geotechnical Data

A	The total of all fines fractions. This flag is used to report total fines when only sieve analysis is requested and balances total grain size with sample weight.
F	Samples were frozen prior to particle size determination
SM	Sample matrix was not appropriate for the requested analysis. This normally refers to samples contaminated with an organic product that interferes with the sieving process and/or moisture content, porosity and saturation calculations
SS	Sample did not contain the proportion of "fines" required to perform the pipette portion of the grain size analysis
W	Weight of sample in some pipette aliquots was below the level required for accurate weighting

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PSDDA PCB by GC/ECD
Extraction Method: SW3546

Sample ID: MB-091615
METHOD BLANK

Lab Sample ID: MB-091615
LIMS ID: 15-16384
Matrix: Soil
Data Release Authorized:
Reported: 09/17/15

QC Report No: AMN4-Jorgensen Forge
Project: JFOS3

Date Sampled: NA
Date Received: NA

Date Extracted: 09/16/15
Date Analyzed: 09/16/15 18:30
Instrument/Analyst: ECD7/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes
Florisil Cleanup: No

Sample Amount: 5.00 g
Final Extract Volume: 5.00 mL
Dilution Factor: 1.00
Silica Gel: No

Percent Moisture: NA

CAS Number	Analyte	LOQ	Result
12674-11-2	Aroclor 1016	20	< 20 U
53469-21-9	Aroclor 1242	20	< 20 U
12672-29-6	Aroclor 1248	20	< 20 U
11097-69-1	Aroclor 1254	20	< 20 U
11096-82-5	Aroclor 1260	20	< 20 U
11104-28-2	Aroclor 1221	20	< 20 U
11141-16-5	Aroclor 1232	20	< 20 U
37324-23-5	Aroclor 1262	20	< 20 U
11100-14-4	Aroclor 1268	20	< 20 U

Reported in µg/kg (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	94.8%
Tetrachlorometaxylene	99.5%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PSDDA PCB by GC/ECD
Extraction Method: SW3546

Sample ID: CMP12-B08-1+06
SAMPLE

Lab Sample ID: AMN4A
LIMS ID: 15-16384
Matrix: Soil
Data Release Authorized: MW
Reported: 09/17/15

QC Report No: AMN4-Jorgensen Forge
Project: JFOS3

Date Sampled: 09/15/15
Date Received: 09/16/15

Date Extracted: 09/16/15
Date Analyzed: 09/16/15 19:13
Instrument/Analyst: ECD7/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes
Florisil Cleanup: No

Sample Amount: 5.43 g-dry-wt
Final Extract Volume: 5.00 mL
Dilution Factor: 1.00
Silica Gel: No

Percent Moisture: 23.0%

CAS Number	Analyte	LOQ	Result
12674-11-2	Aroclor 1016	18	< 18 U
53469-21-9	Aroclor 1242	18	< 18 U
12672-29-6	Aroclor 1248	18	< 18 U
11097-69-1	Aroclor 1254	18	< 18 U
11096-82-5	Aroclor 1260	18	< 18 U
11104-28-2	Aroclor 1221	18	< 18 U
11141-16-5	Aroclor 1232	18	< 18 U
37324-23-5	Aroclor 1262	18	< 18 U
11100-14-4	Aroclor 1268	18	< 18 U

Reported in µg/kg (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	85.0%
Tetrachlorometaxylene	92.5%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PSDDA PCB by GC/ECD
Extraction Method: SW3546

Sample ID: CMP24-B09-1+05
SAMPLE

Lab Sample ID: AMN4B
LIMS ID: 15-16385
Matrix: Soil
Data Release Authorized:
Reported: 09/17/15

QC Report No: AMN4-Jorgensen Forge
Project: JFOS3
Date Sampled: 09/15/15
Date Received: 09/16/15

Date Extracted: 09/16/15
Date Analyzed: 09/16/15 19:34
Instrument/Analyst: ECD7/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes
Florisil Cleanup: No

Sample Amount: 5.11 g-dry-wt
Final Extract Volume: 5.00 mL
Dilution Factor: 1.00
Silica Gel: No

Percent Moisture: 27.2%

CAS Number	Analyte	LOQ	Result
12674-11-2	Aroclor 1016	20	< 20 U
53469-21-9	Aroclor 1242	20	< 20 U
12672-29-6	Aroclor 1248	59	< 59 Y
11097-69-1	**Aroclor 1254**	**20**	**360**
11096-82-5	**Aroclor 1260**	**20**	**66**
11104-28-2	Aroclor 1221	20	< 20 U
11141-16-5	Aroclor 1232	20	< 20 U
37324-23-5	Aroclor 1262	20	< 20 U
11100-14-4	Aroclor 1268	20	< 20 U

Reported in µg/kg (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	78.0%
Tetrachlorometaxylene	84.2%

ANALYTICAL RESOURCES INCORPORATED

SW8082/PCB SOIL/SOLID/SEDIMENT SURROGATE RECOVERY SUMMARY

Matrix: Soil

QC Report No: AMN4-Jorgensen Forge
Project: JFOS3

Client ID	DCBP % REC	DCBP LCL-UCL	TCMX % REC	TCMX LCL-UCL	TOT OUT
MB-091615	94.8%	40-133	99.5%	53-120	0
LCS-091615	95.8%	40-133	110%	53-120	0
CMP12-B08-1+06	85.0%	40-133	92.5%	53-120	0
CMP24-B09-1+05	78.0%	40-133	84.2%	53-120	0

Microwave (MARS) Control Limits PCBSMP
Prep Method: SW3546
Log Number Range: 15-16384 to 15-16385

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PSDDA PCB by GC/ECD
Page 1 of 1

Sample ID: LCS-091615
LAB CONTROL

Lab Sample ID: LCS-091615
LIMS ID: 15-16384
Matrix: Soil
Data Release Authorized:
Reported: 09/17/15

QC Report No: AMN4-Jorgensen Forge
Project: JFOS3

Date Sampled: NA
Date Received: NA

Date Extracted: 09/16/15
Date Analyzed: 09/16/15 18:52
Instrument/Analyst: ECD7/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes
Florisil Cleanup: No

Sample Amount: 5.00 g-dry-wt
Final Extract Volume: 5.00 mL
Dilution Factor: 1.00
Silica Gel: No

Percent Moisture: NA

Analyte	Lab Control	Spike Added	Recovery
Aroclor 1016	538	500	108%
Aroclor 1260	497	500	99.4%

PCB Surrogate Recovery

Decachlorobiphenyl	95.8%
Tetrachlorometaxylene	110%

Results reported in µg/kg (ppb)

4

PCB METHOD BLANK SUMMARY

BLANK NO.

AMN4MBS1

Lab Name: ANALYTICAL RESOURCES INC

Client: JORGENSEN FORGE

ARI Job No.: AMN4

Project: JFOS3

Lab Sample ID: AMN4MBS1

Lab File ID: 09161530

Date Extracted: 09/16/15

Matrix: SOLID

Date Analyzed: 09/16/15

Instrument ID: ECD7

Time Analyzed: 1830

GC Columns: ZB5/ZB35

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS and MSD:

	CLIENT SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED
01	AMN4LCSS1	AMN4LCSS1	09/16/15
02	CMP12-B08-1+06	AMN4A	09/16/15
03	CMP24-B09-1+05	AMN4B	09/16/15

ALL RUNS ARE DUAL COLUMN

6F

8082 INITIAL CALIBRATION OF AROCLOR 1016/1260

Lab Name: ANALYTICAL RESOURCES INC Client: JORGENSEN FORGE

ARI Job No.: AMN4 Project: JFOS3

GC Column: ZB5 Instrument ID: ECD7

Calibration Date: 08/03/15

SURROGATES

RT WIN	LVL1	LVL2	LVL3	LVL4	LVL5	LVL6	MEAN	%RSD
TCX 6.17- 6.37	0.4595	0.5114	0.5438	0.5434	0.5583	0.5704	0.5312	7.6
DCB 14.74-14.94	1.7111	1.7198	1.4821	1.4035	1.2882	1.3482	1.4921	12.4

Aroclor-1016 Peak RT WIN	LVL1 .02	LVL2 0.05	LVL3 0.1	LVL4 .25	LVL5 0.5	LVL6 1.0	MEAN	%RSD R^2
1 8.17- 8.37	0.0127	0.0137	0.0140	0.0130	0.0125	0.0119	0.0129	6.0
2 8.66- 8.86	0.0388	0.0418	0.0425	0.0396	0.0390	0.0384	0.0400	4.3
3 8.96- 9.16	0.0123	0.0144	0.0149	0.0140	0.0138	0.0134	0.0138	6.5
4 9.75- 9.95	0.0139	0.0149	0.0160	0.0148	0.0146	0.0141	0.0147	4.9

AROCLOR AVERAGE %RSD = 5.4

Aroclor-1260 Peak RT WIN	LVL1 .02	LVL2 0.05	LVL3 0.1	LVL4 .25	LVL5 0.5	LVL6 1.0	MEAN	%RSD R^2
1 12.30-12.50	0.0491	0.0528	0.0511	0.0511	0.0472	0.0497	0.0502	3.9
2 12.98-13.18	0.1300	0.1509	0.1533	0.1635	0.1585	0.1747	0.1551	9.6
3 13.35-13.55	0.0548	0.0622	0.0625	0.0650	0.0614	0.0659	0.0620	6.4
4 13.45-13.65	0.0356	0.0404	0.0408	0.0424	0.0400	0.0425	0.0403	6.3
5 13.86-14.06	0.0162	0.0197	0.0199	0.0205	0.0194	0.0207	0.0194	8.4

AROCLOR AVERAGE %RSD = 6.9

6F

8082 INITIAL CALIBRATION OF AROCLOR 1016/1260

Lab Name: ANALYTICAL RESOURCES INC Client: JORGENSEN FORGE

ARI Job No.: AMN4 Project: JFOS3

GC Column: ZB35 Instrument ID: ECD7

Calibration Date: 08/03/15

SURROGATES

	RT WIN	LVL1	LVL2	LVL3	LVL4	LVL5	LVL6	MEAN	%RSD
TCX	6.55- 6.75	0.9749	1.0337	1.0794	1.0345	1.0222	0.9958	1.0234	3.5
DCB	15.22-15.42	1.1059	1.0972	1.1143	1.0244	1.0035	0.9886	1.0556	5.3

Aroclor-1016 Peak	RT WIN	LVL1 .02	LVL2 0.05	LVL3 0.1	LVL4 .25	LVL5 0.5	LVL6 1.0	MEAN	%RSD R^2
1	8.67- 8.87	0.0481	0.0478	0.0466	0.0414	0.0386	0.0357	0.0430	12.2
2	9.38- 9.58	0.0957	0.0955	0.0955	0.0864	0.0833	0.0792	0.0893	8.2
3	9.80-10.00	0.0250	0.0256	0.0255	0.0230	0.0217	0.0205	0.0236	9.1
4	10.35-10.55	0.0339	0.0347	0.0339	0.0302	0.0285	0.0267	0.0313	10.5

AROCLOR AVERAGE %RSD = 10.0

Aroclor-1260 Peak	RT WIN	LVL1 .02	LVL2 0.05	LVL3 0.1	LVL4 .25	LVL5 0.5	LVL6 1.0	MEAN	%RSD R^2
1	12.90-13.10	0.0940	0.0922	0.0897	0.0799	0.0745	0.0713	0.0836	11.5
2	13.56-13.76	0.1992	0.2005	0.1998	0.1867	0.1792	0.1768	0.1904	5.7
3	13.99-14.19	0.0651	0.0649	0.0637	0.0574	0.0536	0.0519	0.0594	10.0
4	14.04-14.24	0.1332	0.1340	0.1333	0.1212	0.1155	0.1129	0.1250	7.7

AROCLOR AVERAGE %RSD = 8.7

6G

8082 INITIAL CALIBRATION OF SINGLE POINT PCBs

Lab Name: ANALYTICAL RESOURCES INC Client: JORGENSEN FORGE

ARI Job No.: AMN4 Project: JFOS3

GC Column: ZB5 Instrument ID: ECD7

Calibration Date: 08/03/15

Aroclor-1221			
Peak	RT	RT WIN	Cal Factor
1	4.946	4.85- 5.05	0.00300
2	6.923	6.82- 7.02	0.00486
3	7.047	6.95- 7.15	0.01455

Aroclor-1232			
Peak	RT	RT WIN	Cal Factor
1	4.946	4.85- 5.05	0.00172
2	7.046	6.95- 7.15	0.00980
3	8.759	8.66- 8.86	0.01696
4	9.658	9.56- 9.76	0.00541

Aroclor-1242			
Peak	RT	RT WIN	Cal Factor
1	8.765	8.67- 8.87	0.03076
2	9.063	8.96- 9.16	0.01109
3	10.298	10.20-10.40	0.01405
4	10.544	10.44-10.64	0.01578

Aroclor-1248			
Peak	RT	RT WIN	Cal Factor
1	9.403	9.30- 9.50	0.00882
2	9.848	9.75- 9.95	0.02086
3	10.297	10.20-10.40	0.02446
4	10.542	10.44-10.64	0.02496

6G

8082 INITIAL CALIBRATION OF SINGLE POINT PCBs

Lab Name: ANALYTICAL RESOURCES INC

Client: JORGENSEN FORGE

ARI Job No.: AMN4

Project: JFOS3

GC Column: ZB5

Instrument ID: ECD7

Calibration Date: 08/03/15

Aroclor-1254			
Peak	RT	RT WIN	Cal Factor
1	10.305	10.21-10.41	0.01523
2	10.626	10.53-10.73	0.02246
3	11.007	10.91-11.11	0.01795
4	11.144	11.04-11.24	0.03393
5	11.858	11.76-11.96	0.02473

Aroclor-1262			
Peak	RT	RT WIN	Cal Factor
1	12.408	12.31-12.51	0.10383
2	13.085	12.99-13.19	0.27054
3	13.461	13.36-13.56	0.07188
4	13.625	13.52-13.72	0.12224
5	14.171	14.07-14.27	0.10332

Aroclor-1268			
Peak	RT	RT WIN	Cal Factor
1	13.561	13.46-13.66	0.24308
2	13.623	13.52-13.72	0.23035
3	13.949	13.85-14.05	0.20684
4	14.555	14.46-14.66	0.63060

6G

8082 INITIAL CALIBRATION OF SINGLE POINT PCBs

Lab Name: ANALYTICAL RESOURCES INC Client: JORGENSEN FORGE

ARI Job No.: AMN4 Project: JFOS3

GC Column: ZB35 Instrument ID: ECD7

Calibration Date: 08/03/15

Aroclor-1221			
Peak	RT	RT WIN	Cal Factor
1	5.744	5.64- 5.84	0.00821
2	7.471	7.37- 7.57	0.01368
3	7.773	7.67- 7.87	0.00799
4	7.913	7.81- 8.01	0.02412

Aroclor-1232			
Peak	RT	RT WIN	Cal Factor
1	5.744	5.64- 5.84	0.00506
2	7.912	7.81- 8.01	0.01726
3	8.762	8.66- 8.86	0.01985
4	9.890	9.79- 9.99	0.01037

Aroclor-1242			
Peak	RT	RT WIN	Cal Factor
1	8.775	8.67- 8.87	0.03253
2	9.481	9.38- 9.58	0.06762
3	10.902	10.80-11.00	0.02930
4	11.343	11.24-11.44	0.02943

Aroclor-1248			
Peak	RT	RT WIN	Cal Factor
1	9.470	9.37- 9.57	0.04417
2	10.446	10.35-10.55	0.03719
3	10.980	10.88-11.08	0.03822
4	11.341	11.24-11.44	0.04818

6G

8082 INITIAL CALIBRATION OF SINGLE POINT PCBs

Lab Name: ANALYTICAL RESOURCES INC Client: JORGENSEN FORGE

ARI Job No.: AMN4 Project: JFOS3

GC Column: ZB35 Instrument ID: ECD7

Calibration Date: 08/03/15

Aroclor-1254			
Peak	RT	RT WIN	Cal Factor
1	11.213	11.11-11.31	0.04173
2	11.311	11.21-11.41	0.01974
3	11.750	11.65-11.85	0.03299
4	11.902	11.80-12.00	0.06503
5	12.681	12.58-12.78	0.04305

Aroclor-1262			
Peak	RT	RT WIN	Cal Factor
1	12.993	12.89-13.09	0.15518
2	13.428	13.33-13.53	0.14324
3	13.656	13.56-13.76	0.29125
4	14.091	13.99-14.19	0.12507
5	14.686	14.59-14.79	0.09594

Aroclor-1268			
Peak	RT	RT WIN	Cal Factor
1	14.090	13.99-14.19	0.21797
2	14.144	14.04-14.24	0.20396
3	14.454	14.35-14.55	0.16487
4	15.033	14.93-15.13	0.46628

7F

PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES INC Client: JORGENSEN FORGE

ARI Job No.: AMN4 Project: JFOS3

GC Column: ZB5 Intrument: ECD7

Init. Calib. Date: 08/03/15

Date Analyzed :09/16/15

Lab Standard ID: AR1254 Time Analyzed :1748

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1254-1	10.31	10.21	10.41	251.6	250.0	0.6
Aroclor-1254-2	10.63	10.53	10.73	276.7	250.0	10.7
Aroclor-1254-3	11.01	10.91	11.11	288.7	250.0	15.5
Aroclor-1254-4	11.14	11.04	11.24	286.9	250.0	14.8
Aroclor-1254-5	11.86	11.76	11.96	272.1	250.0	8.8

AROCLOR AVG: 275.2 CAL %D = 10.1

7F

PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES INC Client: JORGENSEN FORGE

ARI Job No.: AMN4 Project: JFOS3

GC Column: ZB5 Intrument: ECD7

Init. Calib. Date: 08/03/15

Date Analyzed :09/16/15

Lab Standard ID: AR1660 Time Analyzed :1809

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1016-1	8.27	8.17	8.37	245.0	250.0	-2.0
Aroclor-1016-2	8.76	8.66	8.86	243.9	250.0	-2.4
Aroclor-1016-3	9.06	8.96	9.16	248.8	250.0	-0.5
Aroclor-1016-4	9.85	9.75	9.95	253.1	250.0	1.2

AROCLOR AVG: 247.7 CAL %D = -0.9

Date Analyzed :09/16/15

Lab Standard ID: AR1660 Time Analyzed :1809

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1260-1	12.40	12.30	12.50	266.3	250.0	6.5
Aroclor-1260-2	13.08	12.98	13.18	261.9	250.0	4.8
Aroclor-1260-3	13.45	13.35	13.55	260.3	250.0	4.1
Aroclor-1260-4	13.56	13.45	13.65	255.4	250.0	2.2
Aroclor-1260-5	13.96	13.86	14.06	260.6	250.0	4.2

AROCLOR AVG: 260.9 CAL %D = 4.4

7F

PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES INC Client: JORGENSEN FORGE

ARI Job No.: AMN4 Project: JFOS3

GC Column: ZB5 Intrument: ECD7

Init. Calib. Date: 08/03/15

Date Analyzed :09/16/15

Lab Standard ID: AR1248 Time Analyzed :1956

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1248-1	9.40	9.30	9.50	262.5	250.0	5.0
Aroclor-1248-2	9.85	9.75	9.95	265.7	250.0	6.3
Aroclor-1248-3	10.30	10.20	10.40	261.6	250.0	4.6
Aroclor-1248-4	10.54	10.44	10.64	270.6	250.0	8.2

AROCLOR AVG: 265.1 CAL %D = 6.0

7F

PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES INC Client: JORGENSEN FORGE

ARI Job No.: AMN4 Project: JFOS3

GC Column: ZB5 Intrument: ECD7

Init. Calib. Date: 08/03/15

Date Analyzed :09/16/15

Lab Standard ID: AR1660 Time Analyzed :2017

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1016-1	8.27	8.17	8.37	244.1	250.0	-2.3
Aroclor-1016-2	8.76	8.66	8.86	242.6	250.0	-3.0
Aroclor-1016-3	9.06	8.96	9.16	247.4	250.0	-1.0
Aroclor-1016-4	9.85	9.75	9.95	250.2	250.0	0.1

AROCLOR AVG: 246.1 CAL %D = -1.6

Date Analyzed :09/16/15

Lab Standard ID: AR1660 Time Analyzed :2017

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1260-1	12.40	12.30	12.50	267.7	250.0	7.1
Aroclor-1260-2	13.08	12.98	13.18	262.9	250.0	5.1
Aroclor-1260-3	13.45	13.35	13.55	261.8	250.0	4.7
Aroclor-1260-4	13.55	13.45	13.65	256.7	250.0	2.7
Aroclor-1260-5	13.96	13.86	14.06	259.2	250.0	3.7

AROCLOR AVG: 261.6 CAL %D = 4.7

7F

PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES INC Client: JORGENSEN FORGE

ARI Job No.: AMN4 Project: JFOS3

GC Column: ZB35 Intrument: ECD7

Init. Calib. Date: 08/03/15

Date Analyzed :09/16/15

Lab Standard ID: AR1254 Time Analyzed :1748

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1254-1	11.21	11.11	11.31	246.1	250.0	-1.6
Aroclor-1254-2	11.31	11.21	11.41	250.0	250.0	0.0
Aroclor-1254-3	11.75	11.65	11.85	252.3	250.0	0.9
Aroclor-1254-4	11.90	11.80	12.00	246.6	250.0	-1.4
Aroclor-1254-5	12.68	12.58	12.78	243.6	250.0	-2.5

AROCLOR AVG: 247.7 CAL %D = -0.9

7F

PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES INC Client: JORGENSEN FORGE

ARI Job No.: AMN4 Project: JFOS3

GC Column: ZB35 Intrument: ECD7

Init. Calib. Date: 08/03/15

Date Analyzed :09/16/15

Lab Standard ID: AR1660 Time Analyzed :1809

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1016-1	8.77	8.67	8.87	235.7	250.0	-5.7
Aroclor-1016-2	9.48	9.38	9.58	240.9	250.0	-3.6
Aroclor-1016-3	9.90	9.80	10.00	244.8	250.0	-2.1
Aroclor-1016-4	10.45	10.35	10.55	188.0	250.0	-24.8

AROCLOR AVG: 227.3 CAL %D = -9.1

Date Analyzed :09/16/15

Lab Standard ID: AR1660 Time Analyzed :1809

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1260-1	12.99	12.90	13.10	222.9	250.0	-10.8
Aroclor-1260-2	13.66	13.56	13.76	224.8	250.0	-10.1
Aroclor-1260-3	14.09	13.99	14.19	221.1	250.0	-11.5
Aroclor-1260-4	14.14	14.04	14.24	224.4	250.0	-10.2

AROCLOR AVG: 223.3 CAL %D = -10.7

7F

PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES INC Client: JORGENSEN FORGE

ARI Job No.: AMN4 Project: JFOS3

GC Column: ZB35 Intrument: ECD7

Init. Calib. Date: 08/03/15

Date Analyzed :09/16/15

Lab Standard ID: AR1248 Time Analyzed :1956

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1248-1	9.47	9.37	9.57	241.3	250.0	-3.5
Aroclor-1248-2	10.45	10.35	10.55	191.3	250.0	-23.5
Aroclor-1248-3	10.98	10.88	11.08	234.5	250.0	-6.2
Aroclor-1248-4	11.34	11.24	11.44	231.7	250.0	-7.3

AROCLOR AVG: 224.7 CAL %D = -10.1

7F

PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES INC Client: JORGENSEN FORGE

ARI Job No.: AMN4 Project: JFOS3

GC Column: ZB35 Intrument: ECD7

Init. Calib. Date: 08/03/15

Date Analyzed :09/16/15

Lab Standard ID: AR1660 Time Analyzed :2017

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1016-1	8.77	8.67	8.87	234.7	250.0	-6.1
Aroclor-1016-2	9.48	9.38	9.58	239.4	250.0	-4.2
Aroclor-1016-3	9.90	9.80	10.00	242.5	250.0	-3.0
Aroclor-1016-4	10.45	10.35	10.55	187.5	250.0	-25.0

AROCLOR AVG: 226.0 CAL %D = -9.6

Date Analyzed :09/16/15

Lab Standard ID: AR1660 Time Analyzed :2017

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1260-1	13.00	12.90	13.10	223.0	250.0	-10.8
Aroclor-1260-2	13.66	13.56	13.76	223.2	250.0	-10.7
Aroclor-1260-3	14.09	13.99	14.19	211.9	250.0	-15.2
Aroclor-1260-4	14.14	14.04	14.24	215.3	250.0	-13.9

AROCLOR AVG: 218.3 CAL %D = -12.7

FORM 8

PCB INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ANALYTICAL RESOURCES INC Client: JORGENSEN FORGE

ARI Job No.: AMN4 Project: JFOS3

GC Column: ZB5 ID: 0.53(mm) Instrument ID: ECD7

Init. Calib. Date: 08/03/15

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS, SAMPLES, AND STANDARDS IS GIVEN BELOW:

		IS1 AREA	RT	IS2 AREA	RT
	ICAL MIDPT	6328212	3.263	5068453	15.102
	UPPER LIMIT	12656424	3.363	10136906	15.202
	LOWER LIMIT	3164106	3.163	2534226	15.002

	CLIENT SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED	TIME	IS1 AREA	RT	IS2 AREA	RT
01	ZZZZZ	ZZZZZ	08/03/15	1716	6222621	3.258	5047030	15.102
02		0.25PPMAR166	08/03/15	1737	6328212	3.263	5068453	15.102
03		0.02PPMAR166	08/03/15	1758	6326177	3.262	5154907	15.102
04		0.05PPMAR166	08/03/15	1820	6210580	3.264	5033371	15.102
05		1PPMAR1660	08/03/15	1841	6160991	3.266	4985647	15.103
06		0.1PPMAR1660	08/03/15	1902	6344317	3.268	5407220	15.103
07		0.5PPMAR1660	08/03/15	1924	6159955	3.267	5303929	15.103
08		AR1242	08/03/15	1945	6219986	3.265	5066767	15.103
09		AR1248	08/03/15	2007	6249050	3.265	5356854	15.103
10		AR1254	08/03/15	2028	6326911	3.267	5032449	15.103
11		AR2162	08/03/15	2049	6246099	3.266	4938617	15.103
12		AR3268	08/03/15	2111	6259531	3.265	5003661	15.103
13	ZZZZZ	ZZZZZ	08/03/15	2132	6338133	3.267	5037306	15.103
14	ZZZZZ	ZZZZZ	08/03/15	2153	6038309	3.262	5048403	15.103
15	ZZZZZ	ZZZZZ	08/03/15	2214	6208035	3.265	5032536	15.103
16	ZZZZZ	ZZZZZ	08/03/15	2236	6278544	3.265	5100405	15.103
17	ZZZZZ	ZZZZZ	08/03/15	2257	6251565	3.264	5061467	15.103
18	ZZZZZ	ZZZZZ	08/03/15	2318	6317415	3.264	5061451	15.102
19		AR1254	09/16/15	1748	8332316	3.276	6114042	15.095
20		AR1660	09/16/15	1809	7718631	3.276	5947572	15.096
21	AMN4MBS1	AMN4MBS1	09/16/15	1830	7435613	3.276	6031448	15.096
22	AMN4LCSS1	AMN4LCSS1	09/16/15	1852	7527245	3.276	6270571	15.096
23	CMP12-B08-1+	AMN4A	09/16/15	1913	7486654	3.277	5319612	15.096
24	CMP24-B09-1+	AMN4B	09/16/15	1934	7244747	3.278	5350231	15.096
25		AR1248	09/16/15	1956	9297700	3.277	6698333	15.095
26		AR1660	09/16/15	2017	7803653	3.273	5858831	15.096

IS1 = 1-Bromo-2-Nitrobenzene RT Window = RT +/- 0.1 min

IS2 = Hexabromobiphenyl

* Indicates value outside QC Limits

FORM 8
PCB INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ANALYTICAL RESOURCES INC Client: JORGENSEN FORGE

ARI Job No.: AMN4 Project: JFOS3

GC Column: ZB35 ID: 0.53(mm) Instrument ID: ECD7

Init. Calib. Date: 08/03/15

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS, SAMPLES, AND STANDARDS IS GIVEN BELOW:

		IS1 AREA	RT	IS2 AREA	RT
	ICAL MIDPT	12901249	4.365	7598346	15.906
	UPPER LIMIT	25802498	4.465	15196692	16.006
	LOWER LIMIT	6450624	4.265	3799173	15.806

	CLIENT SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED	TIME	IS1 AREA	RT	IS2 AREA	RT
01	ZZZZZ	ZZZZZ	08/03/15	1716	12615423	4.360	7577981	15.906
02		0.25PPMAR166	08/03/15	1737	12901249	4.365	7598346	15.906
03		0.02PPMAR166	08/03/15	1758	12889538	4.366	7674080	15.906
04		0.05PPMAR166	08/03/15	1820	12701605	4.367	7596138	15.906
05		1PPMAR1660	08/03/15	1841	12722963	4.369	7648810	15.907
06		0.1PPMAR1660	08/03/15	1902	13013744	4.371	7786984	15.907
07		0.5PPMAR1660	08/03/15	1924	12706249	4.370	7776969	15.907
08		AR1242	08/03/15	1945	12825517	4.369	7804063	15.906
09		AR1248	08/03/15	2007	12932061	4.369	7871936	15.906
10		AR1254	08/03/15	2028	13098041	4.370	7793570	15.907
11		AR2162	08/03/15	2049	12808024	4.369	7735916	15.907
12		AR3268	08/03/15	2111	12831845	4.369	7828166	15.907
13	ZZZZZ	ZZZZZ	08/03/15	2132	13048327	4.369	7840797	15.907
14	ZZZZZ	ZZZZZ	08/03/15	2153	12451023	4.366	7728754	15.907
15	ZZZZZ	ZZZZZ	08/03/15	2214	12732082	4.367	7695088	15.907
16	ZZZZZ	ZZZZZ	08/03/15	2236	12892489	4.368	7804248	15.906
17	ZZZZZ	ZZZZZ	08/03/15	2257	12666986	4.367	7848857	15.907
18	ZZZZZ	ZZZZZ	08/03/15	2318	12781896	4.367	7841933	15.907
19		AR1254	09/16/15	1748	14323070	4.384	9069058	15.906
20		AR1660	09/16/15	1809	13425287	4.385	8445720	15.906
21	AMN4MBS1	AMN4MBS1	09/16/15	1830	20058790	4.385	8372226	15.906
22	AMN4LCSS1	AMN4LCSS1	09/16/15	1852	14421797	4.387	8504249	15.907
23	CMP12-B08-1+	AMN4A	09/16/15	1913	16568472	4.386	7207119	15.905
24	CMP24-B09-1+	AMN4B	09/16/15	1934	16182103	4.387	7122036	15.906
25		AR1248	09/16/15	1956	15831175	4.387	8985672	15.906
26		AR1660	09/16/15	2017	13587616	4.384	7983061	15.906

IS1 = 1-Bromo-2-Nitrobenzene RT Window = RT +/- 0.1 min
IS2 = Hexabromobiphenyl

* Indicates value outside QC Limits

Analytical Resources, Inc. Report No. AMO6

Analytical Resources, Incorporated
Analytical Chemists and Consultants

17 September 2015

Dee Gardner
Sound Earth Strategies, Inc.
2811 Fairview Avenue East, Suite 2000
Seattle, WA 98102

RE: JFOS3
ARI Job No.: AMO6

Dear Dee:

Please find enclosed the original chain of custody record and the final results for the samples from the project referenced above. Analytical Resources, Inc. received two soil samples on September 16, 2015. The samples were analyzed for PCBs as requested.

These analyses proceeded without incident of note.

If you have any questions regarding these results, please feel free to contact me at your convenience.

Sincerely,

ANALYTICAL RESOURCES, INC.

Mark D. Harris
Project Manager
206/695-6210
markh@arilabs.com

cc: Miles Dyer, Jorgensen Forge
file AMO6

Enclosures

Chain of Custody Record & Laboratory Analysis Request

ARI Assigned Number: KMN06	Turn-around Requested: 24 HOURS	Page: 1 of 1	
ARI Client Company: JORGENSEN FORGE CORP.	Phone: 206.762.1100	Date: 9/16/15	Ice Present? YES
Client Contact: MILES DYER		No. of Coolers: 1	Cooler Temps: 2.6
Client Project Name: JFOSB			
Client Project #:	Samplers: J. LOEFFLER		

Analytical Resources, Incorporated
Analytical Chemists and Consultants
4611 South 134th Place, Suite 100
Tukwila, WA 98168
206-695-6200 206-695-6201 (fax)
www.arilabs.com

Sample ID	Date	Time	Matrix	No. Containers	Analysis Requested: PCBs by EPA 8082	Notes/Comments
CMP12-B07-1+06	9/16/15	1140	SOIL	1	X	STAGE 2B REPORTING PER SAP/QAPP
CMP24-B10-1+05	9/16/15	1155	SOIL	1	X	

9/16/15

Comments/Special Instructions	Relinquished by: (Signature)	Received by: (Signature)	Relinquished by: (Signature)	Received by: (Signature)
CC: DEE GARDNER AT SOUNDEARTH dgardner@soundearthinc.com	Printed Name: JONATHAN LOEFFLER	Printed Name: Chris Atwell	Printed Name:	Printed Name:
	Company: SOUNDEARTH	Company: ARI	Company:	Company:
	Date & Time: 9/16/15 @1338	Date & Time: 9/16/15 1338	Date & Time:	Date & Time:

Limits of Liability: *ARI will perform all requested services in accordance with appropriate methodology following ARI Standard Operating Procedures and the ARI Quality Assurance Program. This program meets standards for the industry. The total liability of ARI, its officers, agents, employees, or successors, arising out of or in connection with the requested services, shall not exceed the Invoiced amount for said services. The acceptance by the client of a proposal for services by ARI release ARI from any liability in excess thereof, not withstanding any provision to the contrary in any contract, purchase order or co-signed agreement between ARI and the Client.*

Sample Retention Policy: All samples submitted to ARI will be appropriately discarded no sooner than 90 days after receipt or 60 days after submission of hardcopy data, whichever is longer, unless alternate retention schedules have been established by work-order or contract.

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Cooler Receipt Form

ARI Client: Jorgensen Forge Project Name: JF253

COC No(s): NA Delivered by: Fed-Ex UPS Courier Hand Delivered Other:

Assigned ARI Job No: AMO06 Tracking No: NA

Preliminary Examination Phase:

Were intact, properly signed and dated custody seals attached to the outside of to cooler?	YES	NO
Were custody papers included with the cooler?	YES	NO
Were custody papers properly filled out (ink, signed, etc.)	YES	NO

Temperature of Cooler(s) (°C) (recommended 2.0-6.0 °C for chemistry): 2.6

Time:

If cooler temperature is out of compliance fill out form 00070F Temp Gun ID#: ~~D00255~~

Cooler Accepted by: CA Date: 9-16-15 Time: 1338

Complete custody forms and attach all shipping documents

Log-In Phase:

Was a temperature blank included in the cooler?		YES	NO
What kind of packing material was used? ... Bubble Wrap Wet Ice Gel Packs Baggies Foam Block Paper Other:			
Was sufficient ice used (if appropriate)?	NA	YES	NO
Were all bottles sealed in individual plastic bags?		YES	NO
Did all bottles arrive in good condition (unbroken)?		YES	NO
Were all bottle labels complete and legible?		YES	NO
Did the number of containers listed on COC match with the number of containers received?		YES	NO
Did all bottle labels and tags agree with custody papers?		YES	NO
Were all bottles used correct for the requested analyses?		YES	NO
Do any of the analyses (bottles) require preservation? (attach preservation sheet, excluding VOCs)...	NA	YES	NO
Were all VOC vials free of air bubbles?	NA	YES	NO
Was sufficient amount of sample sent in each bottle?		YES	NO
Date VOC Trip Blank was made at ARI	NA		

Was Sample Split by ARI : NA YES Date/Time: Equipment: Split by:

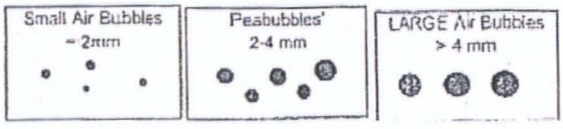
Samples Logged by: W Date: 9/16/15 Time: 1352

*** Notify Project Manager of discrepancies or concerns ***

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Additional Notes, Discrepancies, & Resolutions:

By: Date:



Small → "sm" (< 2 mm)

Peabubbles → "pb" (2 to < 4 mm)

Large → "lg" (4 to < 6 mm)

Headspace → "hs" (> 6 mm)

Sample ID Cross Reference Report

ANALYTICAL RESOURCES INCORPORATED

ARI Job No: AMO6
Client: Jorgensen Forge
Project Event: N/A
Project Name: JFOS3

	Sample ID	ARI Lab ID	ARI LIMS ID	Matrix	Sample Date/Time	VTSR
1.	CMP12-B07-1+06	AMO6A	15-16466	Soil	09/16/15 11:40	09/16/15 13:38
2.	CMP24-B10-1+05	AMO6B	15-16467	Soil	09/16/15 11:55	09/16/15 13:38

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Data Reporting Qualifiers

Effective 12/31/13

Inorganic Data

U	Indicates that the target analyte was not detected at the reported concentration
*	Duplicate RPD is not within established control limits
B	Reported value is less than the CRDL but ≥ the Reporting Limit
N	Matrix Spike recovery not within established control limits
NA	Not Applicable, analyte not spiked
H	The natural concentration of the spiked element is so much greater than the concentration spiked that an accurate determination of spike recovery is not possible
L	Analyte concentration is ≤5 times the Reporting Limit and the replicate control limit defaults to ±1 RL instead of the normal 20% RPD

Organic Data

U	Indicates that the target analyte was not detected at the reported concentration
*	Flagged value is not within established control limits
B	Analyte detected in an associated Method Blank at a concentration greater than one-half of ARI's Reporting Limit or 5% of the regulatory limit or 5% of the analyte concentration in the sample.
J	Estimated concentration when the value is less than ARI's established reporting limits
D	The spiked compound was not detected due to sample extract dilution
E	Estimated concentration calculated for an analyte response above the valid instrument calibration range. A dilution is required to obtain an accurate quantification of the analyte.

Q Indicates a detected analyte with an initial or continuing calibration that does not meet established acceptance criteria (<20%RSD, <20%Drift or minimum RRF).

S Indicates an analyte response that has saturated the detector. The calculated concentration is not valid; a dilution is required to obtain valid quantification of the analyte

NA The flagged analyte was not analyzed for

NR Spiked compound recovery is not reported due to chromatographic interference

NS The flagged analyte was not spiked into the sample

M Estimated value for an analyte detected and confirmed by an analyst but with low spectral match parameters. This flag is used only for GC-MS analyses

N The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification"

Y The analyte is not detected at or above the reported concentration. The reporting limit is raised due to chromatographic interference. The Y flag is equivalent to the U flag with a raised reporting limit.

EMPC Estimated Maximum Possible Concentration (EMPC) defined in EPA Statement of Work DLM02.2 as a value "calculated for 2,3,7,8-substituted isomers for which the quantitation and /or confirmation ion(s) has signal to noise in excess of 2.5, but does not meet identification criteria" **(Dioxin/Furan analysis only)**

C The analyte was positively identified on only one of two chromatographic columns. Chromatographic interference prevented a positive identification on the second column

P The analyte was detected on both chromatographic columns but the quantified values differ by ≥40% RPD with no obvious chromatographic interference

X Analyte signal includes interference from polychlorinated diphenyl ethers. **(Dioxin/Furan analysis only)**

Z Analyte signal includes interference from the sample matrix or perfluorokerosene ions. **(Dioxin/Furan analysis only)**

Geotechnical Data

A	The total of all fines fractions. This flag is used to report total fines when only sieve analysis is requested and balances total grain size with sample weight.
F	Samples were frozen prior to particle size determination
SM	Sample matrix was not appropriate for the requested analysis. This normally refers to samples contaminated with an organic product that interferes with the sieving process and/or moisture content, porosity and saturation calculations
SS	Sample did not contain the proportion of "fines" required to perform the pipette portion of the grain size analysis
W	Weight of sample in some pipette aliquots was below the level required for accurate weighting

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082A
Extraction Method: SW3546
Page 1 of 1

Sample ID: MB-091615
METHOD BLANK

Lab Sample ID: MB-091615
LIMS ID: 15-16466
Matrix: Soil
Data Release Authorized: MW
Reported: 09/17/15

QC Report No: AMO6-Jorgensen Forge
Project: JFOS3

Date Sampled: NA
Date Received: NA

Date Extracted: 09/16/15
Date Analyzed: 09/17/15 09:46
Instrument/Analyst: ECD7/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes
Florisil Cleanup: No

Sample Amount: 5.00 g
Final Extract Volume: 5.00 mL
Dilution Factor: 1.00
Silica Gel: No

Percent Moisture: NA

CAS Number	Analyte	LOQ	Result
12674-11-2	Aroclor 1016	20	< 20 U
53469-21-9	Aroclor 1242	20	< 20 U
12672-29-6	Aroclor 1248	20	< 20 U
11097-69-1	Aroclor 1254	20	< 20 U
11096-82-5	Aroclor 1260	20	< 20 U
11104-28-2	Aroclor 1221	20	< 20 U
11141-16-5	Aroclor 1232	20	< 20 U
37324-23-5	Aroclor 1262	20	< 20 U
11100-14-4	Aroclor 1268	20	< 20 U

Reported in µg/kg (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	109%
Tetrachlorometaxylene	101%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082A
Extraction Method: SW3546

Sample ID: CMP12-B07-1+06
SAMPLE

Lab Sample ID: AM06A
LIMS ID: 15-16466
Matrix: Soil
Data Release Authorized: MW
Reported: 09/17/15

QC Report No: AM06-Jorgensen Forge
Project: JFOS3

Date Sampled: 09/16/15
Date Received: 09/16/15

Date Extracted: 09/16/15
Date Analyzed: 09/17/15 10:28
Instrument/Analyst: ECD7/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes
Florisil Cleanup: No

Sample Amount: 5.48 g-dry-wt
Final Extract Volume: 5.00 mL
Dilution Factor: 1.00
Silica Gel: No

Percent Moisture: 22.0%

CAS Number	Analyte	LOQ	Result
12674-11-2	Aroclor 1016	18	< 18 U
53469-21-9	Aroclor 1242	18	< 18 U
12672-29-6	Aroclor 1248	18	< 18 U
11097-69-1	Aroclor 1254	18	< 18 U
11096-82-5	Aroclor 1260	18	< 18 U
11104-28-2	Aroclor 1221	18	< 18 U
11141-16-5	Aroclor 1232	18	< 18 U
37324-23-5	Aroclor 1262	18	< 18 U
11100-14-4	Aroclor 1268	18	< 18 U

Reported in µg/kg (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	91.0%
Tetrachlorometaxylene	85.2%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082A
Extraction Method: SW3546

Sample ID: CMP24-B10-1+05
SAMPLE

Lab Sample ID: AMO6B
LIMS ID: 15-16467
Matrix: Soil
Data Release Authorized: MW
Reported: 09/17/15

QC Report No: AMO6-Jorgensen Forge
Project: JFOS3

Date Sampled: 09/16/15
Date Received: 09/16/15

Date Extracted: 09/16/15
Date Analyzed: 09/17/15 10:50
Instrument/Analyst: ECD7/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes
Florisil Cleanup: No

Sample Amount: 5.55 g-dry-wt
Final Extract Volume: 5.00 mL
Dilution Factor: 1.00
Silica Gel: No

Percent Moisture: 20.7%

CAS Number	Analyte	LOQ	Result
12674-11-2	Aroclor 1016	18	< 18 U
53469-21-9	Aroclor 1242	18	< 18 U
12672-29-6	Aroclor 1248	18	< 18 U
11097-69-1	Aroclor 1254	18	< 18 U
11096-82-5	Aroclor 1260	18	< 18 U
11104-28-2	Aroclor 1221	18	< 18 U
11141-16-5	Aroclor 1232	18	< 18 U
37324-23-5	**Aroclor 1262**	**18**	**39**
11100-14-4	Aroclor 1268	18	< 18 U

Reported in µg/kg (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	96.2%
Tetrachlorometaxylene	100%

ANALYTICAL RESOURCES INCORPORATED

SW8082/PCB SOIL/SOLID/SEDIMENT SURROGATE RECOVERY SUMMARY

Matrix: Soil

QC Report No: AMO6-Jorgensen Forge
Project: JFOS3

Client ID	DCBP % REC	DCBP LCL-UCL	TCMX % REC	TCMX LCL-UCL	TOT OUT
MB-091615	109%	59-115	101%	58-112	0
LCS-091615	108%	59-115	102%	58-112	0
CMP12-B07-1+06	91.0%	47-120	85.2%	53-116	0
CMP24-B10-1+05	96.2%	47-120	100%	53-116	0

Microwave (MARS) Control Limits PCBSMI
Prep Method: SW3546
Log Number Range: 15-16466 to 15-16467

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082A

Sample ID: LCS-091615
LAB CONTROL

Lab Sample ID: LCS-091615
LIMS ID: 15-16466
Matrix: Soil
Data Release Authorized: MW
Reported: 09/17/15

QC Report No: AMO6-Jorgensen Forge
Project: JFOS3

Date Sampled: NA
Date Received: NA

Date Extracted: 09/16/15
Date Analyzed: 09/17/15 10:07
Instrument/Analyst: ECD7/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes
Florisil Cleanup: No

Sample Amount: 5.00 g-dry-wt
Final Extract Volume: 5.00 mL
Dilution Factor: 1.00
Silica Gel: No

Percent Moisture: NA

Analyte	Lab Control	Spike Added	Recovery
Aroclor 1016	506	500	101%
Aroclor 1260	564	500	113%

PCB Surrogate Recovery

Decachlorobiphenyl	108%
Tetrachlorometaxylene	102%

Results reported in µg/kg (ppb)

4

PCB METHOD BLANK SUMMARY

BLANK NO.

AMO6MBS1

Lab Name: ANALYTICAL RESOURCES INC — Client: JORGENSEN FORGE

ARI Job No.: AMO6 — Project: JFOS3

Lab Sample ID: AMO6MBS1 — Lab File ID: 09171507

Date Extracted: 09/16/15 — Matrix: SOLID

Date Analyzed: 09/17/15 — Instrument ID: ECD7

Time Analyzed: 0946 — GC Columns: ZB5/ZB35

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS and MSD:

	CLIENT SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED
01	AMO6LCSS1	AMO6LCSS1	09/17/15
02	CMP12-B07-1+06	AMO6A	09/17/15
03	CMP24-B10-1+05	AMO6B	09/17/15

ALL RUNS ARE DUAL COLUMN

6F

8082 INITIAL CALIBRATION OF AROCLOR 1016/1260

Lab Name: ANALYTICAL RESOURCES INC Client: JORGENSEN FORGE

ARI Job No.: AMO6 Project: JFOS3

GC Column: ZB5 Instrument ID: ECD7

Calibration Date: 08/03/15

SURROGATES

RT WIN	LVL1	LVL2	LVL3	LVL4	LVL5	LVL6	MEAN	%RSD
TCX 6.17- 6.37	0.4595	0.5114	0.5438	0.5434	0.5583	0.5704	0.5312	7.6
DCB 14.74-14.94	1.7111	1.7198	1.4821	1.4035	1.2882	1.3482	1.4921	12.4

Aroclor-1016 Peak RT WIN	LVL1 .02	LVL2 0.05	LVL3 0.1	LVL4 .25	LVL5 0.5	LVL6 1.0	MEAN	%RSD R^2
1 8.18- 8.38	0.0127	0.0137	0.0140	0.0130	0.0125	0.0119	0.0129	6.0
2 8.66- 8.86	0.0388	0.0418	0.0425	0.0396	0.0390	0.0384	0.0400	4.3
3 8.96- 9.16	0.0123	0.0144	0.0149	0.0140	0.0138	0.0134	0.0138	6.5
4 9.75- 9.95	0.0139	0.0149	0.0160	0.0148	0.0146	0.0141	0.0147	4.9

AROCLOR AVERAGE %RSD = 5.4

Aroclor-1260 Peak RT WIN	LVL1 .02	LVL2 0.05	LVL3 0.1	LVL4 .25	LVL5 0.5	LVL6 1.0	MEAN	%RSD R^2
1 12.30-12.50	0.0491	0.0528	0.0511	0.0511	0.0472	0.0497	0.0502	3.9
2 12.98-13.18	0.1300	0.1509	0.1533	0.1635	0.1585	0.1747	0.1551	9.6
3 13.36-13.56	0.0548	0.0622	0.0625	0.0650	0.0614	0.0659	0.0620	6.4
4 13.46-13.66	0.0356	0.0404	0.0408	0.0424	0.0400	0.0425	0.0403	6.3
5 13.86-14.06	0.0162	0.0197	0.0199	0.0205	0.0194	0.0207	0.0194	8.4

AROCLOR AVERAGE %RSD = 6.9

6F

8082 INITIAL CALIBRATION OF AROCLOR 1016/1260

Lab Name: ANALYTICAL RESOURCES INC Client: JORGENSEN FORGE

ARI Job No.: AMO6 Project: JFOS3

GC Column: ZB35 Instrument ID: ECD7

Calibration Date: 08/03/15

SURROGATES

RT WIN	LVL1	LVL2	LVL3	LVL4	LVL5	LVL6	MEAN	%RSD
TCX 6.56- 6.76	0.9749	1.0337	1.0794	1.0345	1.0222	0.9958	1.0234	3.5
DCB 15.22-15.42	1.1059	1.0972	1.1143	1.0244	1.0035	0.9886	1.0556	5.3

Aroclor-1016 Peak RT WIN	LVL1 .02	LVL2 0.05	LVL3 0.1	LVL4 .25	LVL5 0.5	LVL6 1.0	MEAN	%RSD R^2
1 8.67- 8.87	0.0481	0.0478	0.0466	0.0414	0.0386	0.0357	0.0430	12.2
2 9.38- 9.58	0.0957	0.0955	0.0955	0.0864	0.0833	0.0792	0.0893	8.2
3 9.80-10.00	0.0250	0.0256	0.0255	0.0230	0.0217	0.0205	0.0236	9.1
4 10.35-10.55	0.0339	0.0347	0.0339	0.0302	0.0285	0.0267	0.0313	10.5

AROCLOR AVERAGE %RSD = 10.0

Aroclor-1260 Peak RT WIN	LVL1 .02	LVL2 0.05	LVL3 0.1	LVL4 .25	LVL5 0.5	LVL6 1.0	MEAN	%RSD R^2
1 12.90-13.10	0.0940	0.0922	0.0897	0.0799	0.0745	0.0713	0.0836	11.5
2 13.56-13.76	0.1992	0.2005	0.1998	0.1867	0.1792	0.1768	0.1904	5.7
3 13.99-14.19	0.0651	0.0649	0.0637	0.0574	0.0536	0.0519	0.0594	10.0
4 14.04-14.24	0.1332	0.1340	0.1333	0.1212	0.1155	0.1129	0.1250	7.7

AROCLOR AVERAGE %RSD = 8.7

6G

8082 INITIAL CALIBRATION OF SINGLE POINT PCBs

Lab Name: ANALYTICAL RESOURCES INC Client: JORGENSEN FORGE

ARI Job No.: AMO6 Project: JFOS3

GC Column: ZB5 Instrument ID: ECD7

Calibration Date: 08/03/15

Aroclor-1221			
Peak	RT	RT WIN	Cal Factor
1	4.946	4.85- 5.05	0.00300
2	6.923	6.82- 7.02	0.00486
3	7.047	6.95- 7.15	0.01455

Aroclor-1232			
Peak	RT	RT WIN	Cal Factor
1	4.946	4.85- 5.05	0.00172
2	7.046	6.95- 7.15	0.00980
3	8.759	8.66- 8.86	0.01696
4	9.658	9.56- 9.76	0.00541

Aroclor-1242			
Peak	RT	RT WIN	Cal Factor
1	8.765	8.67- 8.87	0.03076
2	9.063	8.96- 9.16	0.01109
3	10.298	10.20-10.40	0.01405
4	10.544	10.44-10.64	0.01578

Aroclor-1248			
Peak	RT	RT WIN	Cal Factor
1	9.404	9.30- 9.50	0.00882
2	9.848	9.75- 9.95	0.02086
3	10.298	10.20-10.40	0.02446
4	10.543	10.44-10.64	0.02496

6G

8082 INITIAL CALIBRATION OF SINGLE POINT PCBs

Lab Name: ANALYTICAL RESOURCES INC

Client: JORGENSEN FORGE

ARI Job No.: AMO6

Project: JFOS3

GC Column: ZB5

Instrument ID: ECD7

Calibration Date: 08/03/15

Aroclor-1254			
Peak	RT	RT WIN	Cal Factor
1	10.305	10.21-10.41	0.01523
2	10.625	10.53-10.73	0.02246
3	11.007	10.91-11.11	0.01795
4	11.144	11.04-11.24	0.03393
5	11.858	11.76-11.96	0.02473

Aroclor-1262			
Peak	RT	RT WIN	Cal Factor
1	12.408	12.31-12.51	0.10383
2	13.085	12.99-13.19	0.27054
3	13.461	13.36-13.56	0.07188
4	13.625	13.52-13.72	0.12224
5	14.171	14.07-14.27	0.10332

Aroclor-1268			
Peak	RT	RT WIN	Cal Factor
1	13.561	13.46-13.66	0.24308
2	13.623	13.52-13.72	0.23035
3	13.949	13.85-14.05	0.20684
4	14.555	14.46-14.66	0.63060

6G

8082 INITIAL CALIBRATION OF SINGLE POINT PCBs

Lab Name: ANALYTICAL RESOURCES INC Client: JORGENSEN FORGE

ARI Job No.: AM06 Project: JFOS3

GC Column: ZB35 Instrument ID: ECD7

Calibration Date: 08/03/15

Aroclor-1221			
Peak	RT	RT WIN	Cal Factor
1	5.744	5.64- 5.84	0.00821
2	7.471	7.37- 7.57	0.01368
3	7.773	7.67- 7.87	0.00799
4	7.913	7.81- 8.01	0.02412

Aroclor-1232			
Peak	RT	RT WIN	Cal Factor
1	5.744	5.64- 5.84	0.00506
2	7.912	7.81- 8.01	0.01726
3	8.762	8.66- 8.86	0.01985
4	9.890	9.79- 9.99	0.01037

Aroclor-1242			
Peak	RT	RT WIN	Cal Factor
1	8.775	8.67- 8.87	0.03253
2	9.481	9.38- 9.58	0.06762
3	10.902	10.80-11.00	0.02930
4	11.343	11.24-11.44	0.02943

Aroclor-1248			
Peak	RT	RT WIN	Cal Factor
1	9.472	9.37- 9.57	0.04417
2	10.447	10.35-10.55	0.03719
3	10.981	10.88-11.08	0.03822
4	11.342	11.24-11.44	0.04818

6G

8082 INITIAL CALIBRATION OF SINGLE POINT PCBs

Lab Name: ANALYTICAL RESOURCES INC

Client: JORGENSEN FORGE

ARI Job No.: AMO6

Project: JFOS3

GC Column: ZB35

Instrument ID: ECD7

Calibration Date: 08/03/15

Aroclor-1254			
Peak	RT	RT WIN	Cal Factor
1	11.213	11.11-11.31	0.04173
2	11.310	11.21-11.41	0.01974
3	11.750	11.65-11.85	0.03299
4	11.901	11.80-12.00	0.06503
5	12.681	12.58-12.78	0.04305

Aroclor-1262			
Peak	RT	RT WIN	Cal Factor
1	12.993	12.89-13.09	0.15518
2	13.428	13.33-13.53	0.14324
3	13.656	13.56-13.76	0.29125
4	14.091	13.99-14.19	0.12507
5	14.686	14.59-14.79	0.09594

Aroclor-1268			
Peak	RT	RT WIN	Cal Factor
1	14.090	13.99-14.19	0.21797
2	14.144	14.04-14.24	0.20396
3	14.454	14.35-14.55	0.16487
4	15.033	14.93-15.13	0.46628

7F

PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES INC Client: JORGENSEN FORGE

ARI Job No.: AMO6 Project: JFOS3

GC Column: ZB5 Intrument: ECD7

Init. Calib. Date: 08/03/15

Date Analyzed :09/17/15

Lab Standard ID: AR1254 Time Analyzed :0840

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1254-1	10.31	10.21	10.41	262.1	250.0	4.8
Aroclor-1254-2	10.63	10.53	10.73	284.0	250.0	13.6
Aroclor-1254-3	11.01	10.91	11.11	288.6	250.0	15.4
Aroclor-1254-4	11.14	11.04	11.24	285.7	250.0	14.3
Aroclor-1254-5	11.86	11.76	11.96	270.7	250.0	8.3

AROCLOR AVG: 278.2 CAL %D = 11.3

7F

PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES INC Client: JORGENSEN FORGE

ARI Job No.: AMO6 Project: JFOS3

GC Column: ZB5 Intrument: ECD7

Init. Calib. Date: 08/03/15

Date Analyzed :09/17/15

Lab Standard ID: AR1660 Time Analyzed :0901

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1016-1	8.28	8.18	8.38	243.9	250.0	-2.4
Aroclor-1016-2	8.76	8.66	8.86	242.8	250.0	-2.9
Aroclor-1016-3	9.06	8.96	9.16	247.6	250.0	-1.0
Aroclor-1016-4	9.85	9.75	9.95	251.7	250.0	0.7

AROCLOR AVG: 246.5 CAL %D = -1.4

Date Analyzed :09/17/15

Lab Standard ID: AR1660 Time Analyzed :0901

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1260-1	12.40	12.30	12.50	265.4	250.0	6.2
Aroclor-1260-2	13.08	12.98	13.18	272.3	250.0	8.9
Aroclor-1260-3	13.45	13.36	13.56	271.2	250.0	8.5
Aroclor-1260-4	13.56	13.46	13.66	267.1	250.0	6.8
Aroclor-1260-5	13.96	13.86	14.06	271.1	250.0	8.4

AROCLOR AVG: 269.4 CAL %D = 7.8

7F

PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES INC Client: JORGENSEN FORGE

ARI Job No.: AMO6 Project: JFOS3

GC Column: ZB5 Intrument: ECD7

Init. Calib. Date: 08/03/15

Date Analyzed :09/17/15

Lab Standard ID: AR1248 Time Analyzed :1111

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1248-1	9.40	9.30	9.50	259.6	250.0	3.8
Aroclor-1248-2	9.85	9.75	9.95	263.7	250.0	5.5
Aroclor-1248-3	10.30	10.20	10.40	259.4	250.0	3.8
Aroclor-1248-4	10.54	10.44	10.64	267.1	250.0	6.8

AROCLOR AVG: 262.4 CAL %D = 5.0

7F
PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES INC Client: JORGENSEN FORGE

ARI Job No.: AMO6 Project: JFOS3

GC Column: ZB5 Intrument: ECD7

Init. Calib. Date: 08/03/15

Date Analyzed :09/17/15

Lab Standard ID: AR1660 Time Analyzed :1132

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1016-1	8.28	8.18	8.38	243.8	250.0	-2.5
Aroclor-1016-2	8.76	8.66	8.86	243.0	250.0	-2.8
Aroclor-1016-3	9.06	8.96	9.16	248.4	250.0	-0.6
Aroclor-1016-4	9.85	9.75	9.95	250.9	250.0	0.4

AROCLOR AVG: 246.5 CAL %D = -1.4

Date Analyzed :09/17/15

Lab Standard ID: AR1660 Time Analyzed :1132

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1260-1	12.40	12.30	12.50	265.4	250.0	6.2
Aroclor-1260-2	13.08	12.98	13.18	262.2	250.0	4.9
Aroclor-1260-3	13.46	13.36	13.56	259.5	250.0	3.8
Aroclor-1260-4	13.56	13.46	13.66	253.8	250.0	1.5
Aroclor-1260-5	13.96	13.86	14.06	257.0	250.0	2.8

AROCLOR AVG: 259.6 CAL %D = 3.8

7F

PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES INC Client: JORGENSEN FORGE

ARI Job No.: AMO6 Project: JFOS3

GC Column: ZB35 Intrument: ECD7

Init. Calib. Date: 08/03/15

Date Analyzed :09/17/15

Lab Standard ID: AR1254 Time Analyzed :0840

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1254-1	11.21	11.11	11.31	248.9	250.0	-0.4
Aroclor-1254-2	11.31	11.21	11.41	252.3	250.0	0.9
Aroclor-1254-3	11.75	11.65	11.85	255.0	250.0	2.0
Aroclor-1254-4	11.90	11.80	12.00	249.3	250.0	-0.3
Aroclor-1254-5	12.68	12.58	12.78	244.8	250.0	-2.1

AROCLOR AVG: 250.1 CAL %D = 0.0

7F

PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES INC Client: JORGENSEN FORGE

ARI Job No.: AMO6 Project: JFOS3

GC Column: ZB35 Intrument: ECD7

Init. Calib. Date: 08/03/15

Date Analyzed :09/17/15

Lab Standard ID: AR1660 Time Analyzed :0901

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1016-1	8.77	8.67	8.87	237.4	250.0	-5.0
Aroclor-1016-2	9.48	9.38	9.58	243.2	250.0	-2.7
Aroclor-1016-3	9.90	9.80	10.00	245.5	250.0	-1.8
Aroclor-1016-4	10.45	10.35	10.55	189.6	250.0	-24.2

AROCLOR AVG: 228.9 CAL %D = -8.4

Date Analyzed :09/17/15

Lab Standard ID: AR1660 Time Analyzed :0901

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1260-1	13.00	12.90	13.10	226.1	250.0	-9.6
Aroclor-1260-2	13.66	13.56	13.76	230.1	250.0	-8.0
Aroclor-1260-3	14.09	13.99	14.19	223.9	250.0	-10.4
Aroclor-1260-4	14.14	14.04	14.24	227.8	250.0	-8.9

AROCLOR AVG: 227.0 CAL %D = -9.2

7F

PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES INC Client: JORGENSEN FORGE

ARI Job No.: AM06 Project: JFOS3

GC Column: ZB35 Intrument: ECD7

Init. Calib. Date: 08/03/15

Date Analyzed :09/17/15

Lab Standard ID: AR1248 Time Analyzed :1111

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1248-1	9.47	9.37	9.57	240.5	250.0	-3.8
Aroclor-1248-2	10.45	10.35	10.55	193.2	250.0	-22.7
Aroclor-1248-3	10.98	10.88	11.08	237.7	250.0	-4.9
Aroclor-1248-4	11.34	11.24	11.44	234.5	250.0	-6.2

AROCLOR AVG: 226.5 CAL %D = -9.4

7F

PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES INC Client: JORGENSEN FORGE

ARI Job No.: AMO6 Project: JFOS3

GC Column: ZB35 Intrument: ECD7

Init. Calib. Date: 08/03/15

Date Analyzed :09/17/15

Lab Standard ID: AR1660 Time Analyzed :1132

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1016-1	8.77	8.67	8.87	236.5	250.0	-5.4
Aroclor-1016-2	9.48	9.38	9.58	242.2	250.0	-3.1
Aroclor-1016-3	9.90	9.80	10.00	243.0	250.0	-2.8
Aroclor-1016-4	10.45	10.35	10.55	189.1	250.0	-24.4

AROCLOR AVG: 227.7 CAL %D = -8.9

Date Analyzed :09/17/15

Lab Standard ID: AR1660 Time Analyzed :1132

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1260-1	13.00	12.90	13.10	231.3	250.0	-7.5
Aroclor-1260-2	13.66	13.56	13.76	230.1	250.0	-7.9
Aroclor-1260-3	14.09	13.99	14.19	214.7	250.0	-14.1
Aroclor-1260-4	14.14	14.04	14.24	218.5	250.0	-12.6

AROCLOR AVG: 223.7 CAL %D = -10.5

FORM 8
PCB INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ANALYTICAL RESOURCES INC Client: JORGENSEN FORGE

ARI Job No.: AMO6 Project: JFOS3

GC Column: ZB5 ID: 0.53(mm) Instrument ID: ECD7

Init. Calib. Date: 08/03/15

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS, SAMPLES, AND STANDARDS IS GIVEN BELOW:

		IS1 AREA	RT	IS2 AREA	RT
	ICAL MIDPT	6328212	3.263	5068453	15.102
	UPPER LIMIT	12656424	3.363	10136906	15.202
	LOWER LIMIT	3164106	3.163	2534226	15.002

	CLIENT SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED	TIME	IS1 AREA	RT	IS2 AREA	RT
01	ZZZZZ	ZZZZZ	08/03/15	1716	6222621	3.258	5047030	15.102
02		0.25PPMAR166	08/03/15	1737	6328212	3.263	5068453	15.102
03		0.02PPMAR166	08/03/15	1758	6326177	3.262	5154907	15.102
04		0.05PPMAR166	08/03/15	1820	6210580	3.264	5033371	15.102
05		1PPMAR1660	08/03/15	1841	6160991	3.266	4985647	15.103
06		0.1PPMAR1660	08/03/15	1902	6344317	3.268	5407220	15.103
07		0.5PPMAR1660	08/03/15	1924	6159955	3.267	5303929	15.103
08		AR1242	08/03/15	1945	6219986	3.265	5066767	15.103
09		AR1248	08/03/15	2007	6249050	3.265	5356854	15.103
10		AR1254	08/03/15	2028	6326911	3.267	5032449	15.103
11		AR2162	08/03/15	2049	6246099	3.266	4938617	15.103
12		AR3268	08/03/15	2111	6259531	3.265	5003661	15.103
13	ZZZZZ	ZZZZZ	08/03/15	2132	6338133	3.267	5037306	15.103
14	ZZZZZ	ZZZZZ	08/03/15	2153	6038309	3.262	5048403	15.103
15	ZZZZZ	ZZZZZ	08/03/15	2214	6208035	3.265	5032536	15.103
16	ZZZZZ	ZZZZZ	08/03/15	2236	6278544	3.265	5100405	15.103
17	ZZZZZ	ZZZZZ	08/03/15	2257	6251565	3.264	5061467	15.103
18	ZZZZZ	ZZZZZ	08/03/15	2318	6317415	3.264	5061451	15.102
19	ZZZZZ	ZZZZZ	09/17/15	0715	6911781	3.261	5708686	15.095
20	ZZZZZ	ZZZZZ	09/17/15	0736	9352865	3.261	6538565	15.094
21	ZZZZZ	ZZZZZ	09/17/15	0757	7250319	3.278	5643036	15.094
22	ZZZZZ	ZZZZZ	09/17/15	0818	8317948	3.273	5780200	15.095
23		AR1254	09/17/15	0840	8865813	3.276	6823317	15.095
24		AR1660	09/17/15	0901	8353074	3.279	6172946	15.096
25	AMO6MBS1	AMO6MBS1	09/17/15	0946	7334837	3.237	5622694	15.093
26	AMO6LCSS1	AMO6LCSS1	09/17/15	1007	7562813	3.262	5761936	15.094
27	CMP12-B07-1+	AMO6A	09/17/15	1028	7549776	3.271	4700128	15.095
28	CMP24-B10-1+	AMO6B	09/17/15	1050	7309118	3.274	4974244	15.096
29		AR1248	09/17/15	1111	10670433	3.277	7976415	15.096
30		AR1660	09/17/15	1132	8566609	3.278	6444618	15.096

IS1 = 1-Bromo-2-Nitrobenzene RT Window = RT +/- 0.1 min
IS2 = Hexabromobiphenyl

* Indicates value outside QC Limits

FORM VIII PCB

FORM 8
PCB INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ANALYTICAL RESOURCES INC Client: JORGENSEN FORGE

ARI Job No.: AMO6 Project: JFOS3

GC Column: ZB35 ID: 0.53(mm) Instrument ID: ECD7

Init. Calib. Date: 08/03/15

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS, SAMPLES, AND STANDARDS IS GIVEN BELOW:

		IS1 AREA	RT	IS2 AREA	RT
	ICAL MIDPT	12901249	4.365	7598346	15.906
	UPPER LIMIT	25802498	4.465	15196692	16.006
	LOWER LIMIT	6450624	4.265	3799173	15.806

	CLIENT SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED	TIME	IS1 AREA	RT	IS2 AREA	RT
01	ZZZZZ	ZZZZZ	08/03/15	1716	12615423	4.360	7577981	15.906
02		0.25PPMAR166	08/03/15	1737	12901249	4.365	7598346	15.906
03		0.02PPMAR166	08/03/15	1758	12889538	4.366	7674080	15.906
04		0.05PPMAR166	08/03/15	1820	12701605	4.367	7596138	15.906
05		1PPMAR1660	08/03/15	1841	12722963	4.369	7648810	15.907
06		0.1PPMAR1660	08/03/15	1902	13013744	4.371	7786984	15.907
07		0.5PPMAR1660	08/03/15	1924	12706249	4.370	7776969	15.907
08		AR1242	08/03/15	1945	12825517	4.369	7804063	15.906
09		AR1248	08/03/15	2007	12932061	4.369	7871936	15.906
10		AR1254	08/03/15	2028	13098041	4.370	7793570	15.907
11		AR2162	08/03/15	2049	12808024	4.369	7735916	15.907
12		AR3268	08/03/15	2111	12831845	4.369	7828166	15.907
13	ZZZZZ	ZZZZZ	08/03/15	2132	13048327	4.369	7840797	15.907
14	ZZZZZ	ZZZZZ	08/03/15	2153	12451023	4.366	7728754	15.907
15	ZZZZZ	ZZZZZ	08/03/15	2214	12732082	4.367	7695088	15.907
16	ZZZZZ	ZZZZZ	08/03/15	2236	12892489	4.368	7804248	15.906
17	ZZZZZ	ZZZZZ	08/03/15	2257	12666986	4.367	7848857	15.907
18	ZZZZZ	ZZZZZ	08/03/15	2318	12781896	4.367	7841933	15.907
19	ZZZZZ	ZZZZZ	09/17/15	0715	12407456	4.348	7070938	15.903
20	ZZZZZ	ZZZZZ	09/17/15	0736	15218750	4.366	8646569	15.904
21	ZZZZZ	ZZZZZ	09/17/15	0757	12088231	4.379	7265032	15.904
22	ZZZZZ	ZZZZZ	09/17/15	0818	14001915	4.381	8057046	15.904
23		AR1254	09/17/15	0840	15110619	4.384	9360168	15.905
24		AR1660	09/17/15	0901	14457436	4.388	8857258	15.906
25	AMO6MBS1	AMO6MBS1	09/17/15	0946	12813597	4.320	7555443	15.899
26	AMO6LCSS1	AMO6LCSS1	09/17/15	1007	12946274	4.368	7741969	15.904
27	CMP12-B07-1+	AMO6A	09/17/15	1028	11824939	4.378	6302950	15.905
28	CMP24-B10-1+	AMO6B	09/17/15	1050	12176985	4.384	6517878	15.905
29		AR1248	09/17/15	1111	17929879	4.387	10130221	15.906
30		AR1660	09/17/15	1132	14800919	4.388	8302187	15.906

IS1 = 1-Bromo-2-Nitrobenzene RT Window = RT +/- 0.1 min
IS2 = Hexabromobiphenyl

* Indicates value outside QC Limits

FORM VIII PCB

Analytical Resources, Inc. Report No. AMV1

Analytical Resources, Incorporated
Analytical Chemists and Consultants

23 September 2015

Dee Gardner
Sound Earth Strategies, Inc.
2811 Fairview Avenue East, Suite 2000
Seattle, WA 98102

RE: JFOS3
ARI Job No.: AMV1

Dear Dee:

Please find enclosed the original chain of custody record and the final results for the samples from the project referenced above. Analytical Resources, Inc. received five soil samples on September 21, 2015. The samples were analyzed for PCBs as requested.

These analyses proceeded without incident of note.

If you have any questions regarding these results, please feel free to contact me at your convenience.

Sincerely,

ANALYTICAL RESOURCES, INC.

Mark D. Harris
Project Manager
206/695-6210
markh@arilabs.com

cc: Miles Dyer, Jorgensen Forge
file AMV1

Enclosures

4611 South 134th Place, Suite 100 • Tukwila WA 98168 • **206-695-6200** • **206-695-6201** fax

Chain of Custody Record & Laboratory Analysis Request

ARI Assigned Number: AMJI	Turn-around Requested: 24 HOURS	Page: 1 of 1	
ARI Client Company: JORGENSEN FORGE CORPORATION	Phone: 206.762.1100	Date: 9/21/15	Ice Present? Yes
Client Contact: MILES DYER		No. of Coolers: 1	Cooler Temps: 5.7
Client Project Name: JFOS3			
Client Project #:	Samplers: J. LOEFFLER		

Analytical Resources, Incorporated
Analytical Chemists and Consultants
4611 South 134th Place, Suite 100
Tukwila, WA 98168
206-695-6200 206-695-6201 (fax)
www.arilabs.com

Sample ID	Date	Time	Matrix	No. Containers	Analysis Requested: PCBs by EPA 8082	Notes/Comments
266-B11-2+06	9/21/15	1205	SOIL	1	X	STAGE 2B REPORTING PER SAP/QAPP
266-S14-2+07		1213	SOIL	1	X	
266-W13-2+07		1215	SOIL	1	X	
266-N12-2+07		1218	SOIL	1	X	
266-E15-2+07		1226	SOIL	1	X	

Comments/Special Instructions	Relinquished by: (Signature)	Received by: (Signature)	Relinquished by: (Signature)	Received by: (Signature)
CC: DEE GARDNER AT SOUNDEARTH dgardner@soundearthinc.com AND jloeffler@soundearthinc.com	Printed Name: JONATHAN LOEFFLER	Printed Name: Chris Ahl	Printed Name:	Printed Name:
	Company: SOUNDEARTH	Company: ARI	Company:	Company:
	Date & Time: 9/21/15 @ 1322	Date & Time: 9/21/15 1322	Date & Time:	Date & Time:

9/21/15

AMJI : 00002

Limits of Liability: *ARI will perform all requested services in accordance with appropriate methodology following ARI Standard Operating Procedures and the ARI Quality Assurance Program. This program meets standards for the industry. The total liability of ARI, its officers, agents, employees, or successors, arising out of or in connection with the requested services, shall not exceed the invoiced amount for said services. The acceptance by the client of a proposal for services by ARI release ARI from any liability in excess thereof, not withstanding any provision to the contrary in any contract, purchase order or co-signed agreement between ARI and the Client.*

Sample Retention Policy: All samples submitted to ARI will be appropriately discarded no sooner than 90 days after receipt or 60 days after submission of hardcopy data, whichever is longer, unless alternate retention schedules have been established by work-order or contract.

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Cooler Receipt Form

ARI Client: Jorgensen Forge Corp. Project Name: JFOS3

COC No(s): _____ (NA) Delivered by: Fed-Ex UPS Courier (Hand Delivered) Other: _____

Assigned ARI Job No: AMV1 Tracking No: _____ (NA)

Preliminary Examination Phase:

Were intact, properly signed and dated custody seals attached to the outside of to cooler?	YES	(NO)
Were custody papers included with the cooler?	(YES)	NO
Were custody papers properly filled out (ink, signed, etc.)	(YES)	NO

Temperature of Cooler(s) (°C) (recommended 2.0-6.0 °C for chemistry) 5.7 ___ ___ ___ ___

Time: _____

If cooler temperature is out of compliance fill out form 00070F Temp Gun ID#: D00525

Cooler Accepted by: _____ Date: 9/21/15 Time: 1322

Complete custody forms and attach all shipping documents

Log-In Phase:

Was a temperature blank included in the cooler?		YES	(NO)
What kind of packing material was used? ... Bubble Wrap (Wet Ice) Gel Packs (Baggies) Foam Block Paper Other: _____			
Was sufficient ice used (if appropriate)?	NA	(YES)	NO
Were all bottles sealed in individual plastic bags?		(YES)	NO
Did all bottles arrive in good condition (unbroken)?		(YES)	NO
Were all bottle labels complete and legible?		(YES)	NO
Did the number of containers listed on COC match with the number of containers received?		(YES)	NO
Did all bottle labels and tags agree with custody papers?		(YES)	NO
Were all bottles used correct for the requested analyses?		(YES)	NO
Do any of the analyses (bottles) require preservation? (attach preservation sheet, excluding VOCs)...	(NA)	YES	NO
Were all VOC vials free of air bubbles?	(NA)	YES	NO
Was sufficient amount of sample sent in each bottle?		(YES)	NO
Date VOC Trip Blank was made at ARI	(NA)		

Was Sample Split by ARI : (NA) YES Date/Time: _____ Equipment: _____ Split by: _____

Samples Logged by: AV Date: 9/21/15 Time: 1340

*** Notify Project Manager of discrepancies or concerns ***

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Additional Notes, Discrepancies, & Resolutions:

By: Date:

Small Air Bubbles ~2mm	Peabubbles 2-4 mm	LARGE Air Bubbles > 4 mm
• • •	• • •	• • •

Small → "sm" (< 2 mm)

Peabubbles → "pb" (2 to < 4 mm)

Large → "lg" (4 to < 6 mm)

Headspace → "hs" (> 6 mm)

Sample ID Cross Reference Report

ANALYTICAL RESOURCES INCORPORATED

ARI Job No: AMV1
Client: Jorgensen Forge
Project Event: N/A
Project Name: JFOS3

	Sample ID	ARI Lab ID	ARI LIMS ID	Matrix	Sample Date/Time	VTSR
1.	266-B11-2-06	AMV1A	15-16831	Soil	09/21/15 12:05	09/21/15 13:22
2.	266-S14-2-07	AMV1B	15-16832	Soil	09/21/15 12:13	09/21/15 13:22
3.	266-W13-2+07	AMV1C	15-16833	Soil	09/21/15 12:15	09/21/15 13:22
4.	266-N12-2+07	AMV1D	15-16834	Soil	09/21/15 12:18	09/21/15 13:22
5.	266-E15-2-07	AMV1E	15-16835	Soil	09/21/15 12:26	09/21/15 13:22

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Data Reporting Qualifiers

Effective 2/14/2011

Inorganic Data

U	Indicates that the target analyte was not detected at the reported concentration
*	Duplicate RPD is not within established control limits
B	Reported value is less than the CRDL but ≥ the Reporting Limit
N	Matrix Spike recovery not within established control limits
NA	Not Applicable, analyte not spiked
H	The natural concentration of the spiked element is so much greater than the concentration spiked that an accurate determination of spike recovery is not possible
L	Analyte concentration is ≤5 times the Reporting Limit and the replicate control limit defaults to ±1 RL instead of the normal 20% RPD

Organic Data

U	Indicates that the target analyte was not detected at the reported concentration
*	Flagged value is not within established control limits
B	Analyte detected in an associated Method Blank at a concentration greater than one-half of ARI's Reporting Limit or 5% of the regulatory limit or 5% of the analyte concentration in the sample.
J	Estimated concentration when the value is less than ARI's established reporting limits
D	The spiked compound was not detected due to sample extract dilution
E	Estimated concentration calculated for an analyte response above the valid instrument calibration range. A dilution is required to obtain an accurate quantification of the analyte.
Q	Indicates a detected analyte with an initial or continuing calibration that does not meet established acceptance criteria (<20%RSD, <20%Drift or minimum RRF).

S Indicates an analyte response that has saturated the detector. The calculated concentration is not valid; a dilution is required to obtain valid quantification of the analyte

NA The flagged analyte was not analyzed for

NR Spiked compound recovery is not reported due to chromatographic interference

NS The flagged analyte was not spiked into the sample

M Estimated value for an analyte detected and confirmed by an analyst but with low spectral match parameters. This flag is used only for GC-MS analyses

M2 The sample contains PCB congeners that do not match any standard Aroclor pattern. The PCBs are identified and quantified as the Aroclor whose pattern most closely matches that of the sample. The reported value is an estimate.

N The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification"

Y The analyte is not detected at or above the reported concentration. The reporting limit is raised due to chromatographic interference. The Y flag is equivalent to the U flag with a raised reporting limit.

EMPC Estimated Maximum Possible Concentration (EMPC) defined in EPA Statement of Work DLM02.2 as a value "calculated for 2,3,7,8-substituted isomers for which the quantitation and /or confirmation ion(s) has signal to noise in excess of 2.5, but does not meet identification criteria" **(Dioxin/Furan analysis only)**

C The analyte was positively identified on only one of two chromatographic columns. Chromatographic interference prevented a positive identification on the second column

P The analyte was detected on both chromatographic columns but the quantified values differ by ≥40% RPD with no obvious chromatographic interference

X Analyte signal includes interference from polychlorinated diphenyl ethers. **(Dioxin/Furan analysis only)**

Z Analyte signal includes interference from the sample matrix or perfluorokerosene ions. **(Dioxin/Furan analysis only)**

Geotechnical Data

A	The total of all fines fractions. This flag is used to report total fines when only sieve analysis is requested and balances total grain size with sample weight.
F	Samples were frozen prior to particle size determination
SM	Sample matrix was not appropriate for the requested analysis. This normally refers to samples contaminated with an organic product that interferes with the sieving process and/or moisture content, porosity and saturation calculations
SS	Sample did not contain the proportion of "fines" required to perform the pipette portion of the grain size analysis
W	Weight of sample in some pipette aliquots was below the level required for accurate weighting

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082A
Extraction Method: SW3546
Page 1 of 1

Sample ID: 266-B11-2+06
SAMPLE

Lab Sample ID: AMV1A
LIMS ID: 15-16831
Matrix: Soil
Data Release Authorized:
Reported: 09/22/15

QC Report No: AMV1-Jorgensen Forge
Project: JFOS3

Date Sampled: 09/21/15
Date Received: 09/21/15

Date Extracted: 09/21/15
Date Analyzed: 09/22/15 12:08
Instrument/Analyst: ECD7/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes
Florisil Cleanup: No

Sample Amount: 6.59 g-dry-wt
Final Extract Volume: 5.00 mL
Dilution Factor: 1.00
Silica Gel: No

Percent Moisture: 12.7%

CAS Number	Analyte	LOQ	Result
12674-11-2	Aroclor 1016	15	< 15 U
53469-21-9	Aroclor 1242	15	< 15 U
12672-29-6	Aroclor 1248	15	< 15 U
11097-69-1	Aroclor 1254	15	< 15 U
11096-82-5	**Aroclor 1260**	**15**	**61**
11104-28-2	Aroclor 1221	15	< 15 U
11141-16-5	Aroclor 1232	15	< 15 U
37324-23-5	Aroclor 1262	15	< 15 U
11100-14-4	Aroclor 1268	15	< 15 U

Reported in µg/kg (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	77.8%
Tetrachlorometaxylene	68.8%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082A
Extraction Method: SW3546
Page 1 of 1

Sample ID: 266-S14-2+07
SAMPLE

Lab Sample ID: AMV1B
LIMS ID: 15-16832
Matrix: Soil
Data Release Authorized:
Reported: 09/22/15

QC Report No: AMV1-Jorgensen Forge
Project: JFOS3

Date Sampled: 09/21/15
Date Received: 09/21/15

Date Extracted: 09/21/15
Date Analyzed: 09/22/15 12:29
Instrument/Analyst: ECD7/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes
Florisil Cleanup: No

Sample Amount: 6.53 g-dry-wt
Final Extract Volume: 5.00 mL
Dilution Factor: 1.00
Silica Gel: No

Percent Moisture: 13.3%

CAS Number	Analyte	LOQ	Result
12674-11-2	Aroclor 1016	15	< 15 U
53469-21-9	Aroclor 1242	15	< 15 U
12672-29-6	Aroclor 1248	15	< 15 U
11097-69-1	Aroclor 1254	15	< 15 U
11096-82-5	Aroclor 1260	15	< 15 U
11104-28-2	Aroclor 1221	15	< 15 U
11141-16-5	Aroclor 1232	15	< 15 U
37324-23-5	Aroclor 1262	15	< 15 U
11100-14-4	Aroclor 1268	15	< 15 U

Reported in µg/kg (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	72.8%
Tetrachlorometaxylene	62.0%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082A
Extraction Method: SW3546
Page 1 of 1

Sample ID: 266-W13-2+07
SAMPLE

Lab Sample ID: AMV1C
LIMS ID: 15-16833
Matrix: Soil
Data Release Authorized:
Reported: 09/22/15

QC Report No: AMV1-Jorgensen Forge
Project: JFOS3

Date Sampled: 09/21/15
Date Received: 09/21/15

Date Extracted: 09/21/15
Date Analyzed: 09/22/15 12:50
Instrument/Analyst: ECD7/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes
Florisil Cleanup: No

Sample Amount: 6.21 g-dry-wt
Final Extract Volume: 5.00 mL
Dilution Factor: 1.00
Silica Gel: No

Percent Moisture: 17.7%

CAS Number	Analyte	LOQ	Result
12674-11-2	Aroclor 1016	16	< 16 U
53469-21-9	Aroclor 1242	16	< 16 U
12672-29-6	Aroclor 1248	16	< 16 U
11097-69-1	Aroclor 1254	16	< 16 U
11096-82-5	Aroclor 1260	16	< 16 U
11104-28-2	Aroclor 1221	16	< 16 U
11141-16-5	Aroclor 1232	16	< 16 U
37324-23-5	Aroclor 1262	16	< 16 U
11100-14-4	Aroclor 1268	16	< 16 U

Reported in µg/kg (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	71.0%
Tetrachlorometaxylene	62.8%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082A
Extraction Method: SW3546
Page 1 of 1

Sample ID: 266-N12-2+07
SAMPLE

Lab Sample ID: AMV1D
LIMS ID: 15-16834
Matrix: Soil
Data Release Authorized:
Reported: 09/22/15

QC Report No: AMV1-Jorgensen Forge
Project: JFOS3

Date Sampled: 09/21/15
Date Received: 09/21/15

Date Extracted: 09/21/15
Date Analyzed: 09/22/15 13:12
Instrument/Analyst: ECD7/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes
Florisil Cleanup: No

Sample Amount: 6.87 g-dry-wt
Final Extract Volume: 5.00 mL
Dilution Factor: 1.00
Silica Gel: No

Percent Moisture: 9.0%

CAS Number	Analyte	LOQ	Result
12674-11-2	Aroclor 1016	15	< 15 U
53469-21-9	Aroclor 1242	15	< 15 U
12672-29-6	Aroclor 1248	15	< 15 U
11097-69-1	Aroclor 1254	51	< 51 Y
11096-82-5	**Aroclor 1260**	**15**	**230**
11104-28-2	Aroclor 1221	15	< 15 U
11141-16-5	Aroclor 1232	15	< 15 U
37324-23-5	Aroclor 1262	15	< 15 U
11100-14-4	Aroclor 1268	15	< 15 U

Reported in µg/kg (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	77.5%
Tetrachlorometaxylene	67.5%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082A
Extraction Method: SW3546
Page 1 of 1

Sample ID: 266-E15-2+07
SAMPLE

Lab Sample ID: AMV1E
LIMS ID: 15-16835
Matrix: Soil
Data Release Authorized:
Reported: 09/22/15

QC Report No: AMV1-Jorgensen Forge
Project: JFOS3

Date Sampled: 09/21/15
Date Received: 09/21/15

Date Extracted: 09/21/15
Date Analyzed: 09/22/15 13:33
Instrument/Analyst: ECD7/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes
Florisil Cleanup: No

Sample Amount: 6.49 g-dry-wt
Final Extract Volume: 5.00 mL
Dilution Factor: 1.00
Silica Gel: No

Percent Moisture: 13.7%

CAS Number	Analyte	LOQ	Result
12674-11-2	Aroclor 1016	15	< 15 U
53469-21-9	Aroclor 1242	15	< 15 U
12672-29-6	Aroclor 1248	15	< 15 U
11097-69-1	Aroclor 1254	15	< 15 U
11096-82-5	**Aroclor 1260**	**15**	**30**
11104-28-2	Aroclor 1221	15	< 15 U
11141-16-5	Aroclor 1232	15	< 15 U
37324-23-5	Aroclor 1262	15	< 15 U
11100-14-4	Aroclor 1268	15	< 15 U

Reported in µg/kg (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	73.0%
Tetrachlorometaxylene	64.2%

ANALYTICAL RESOURCES INCORPORATED

SW8082/PCB SOIL/SOLID/SEDIMENT SURROGATE RECOVERY SUMMARY

Matrix: Soil

QC Report No: AMV1-Jorgensen Forge
Project: JFOS3

Client ID	DCBP % REC	DCBP LCL-UCL	TCMX % REC	TCMX LCL-UCL	TOT OUT
MB-092115	77.0%	59-115	64.2%	58-112	0
266-B11-2+06	77.8%	47-120	68.8%	53-116	0
266-S14-2+07	72.8%	47-120	62.0%	53-116	0
266-W13-2+07	71.0%	47-120	62.8%	53-116	0
266-N12-2+07	77.5%	47-120	67.5%	53-116	0
266-E15-2+07	73.0%	47-120	64.2%	53-116	0

Microwave (MARS) Control Limits PCBSMI
Prep Method: SW3546
Log Number Range: 15-16831 to 15-16835

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082A
Page 1 of 1

Sample ID: LCS-092115
LAB CONTROL

Lab Sample ID: LCS-092115
LIMS ID: 15-16831
Matrix: Soil
Data Release Authorized:
Reported: 09/22/15

QC Report No: AMV1-Jorgensen Forge
Project: JFOS3

Date Sampled: NA
Date Received: NA

Date Extracted: 09/21/15
Date Analyzed: 09/22/15 13:54
Instrument/Analyst: ECD7/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes
Florisil Cleanup: No

Sample Amount: 5.00 g-dry-wt
Final Extract Volume: 5.00 mL
Dilution Factor: 1.00
Silica Gel: No

Percent Moisture: NA

Analyte	Lab Control	Spike Added	Recovery
Aroclor 1016	395	500	79.0%
Aroclor 1260	478	500	95.6%

PCB Surrogate Recovery

Decachlorobiphenyl	78.0%
Tetrachlorometaxylene	65.8%

Results reported in µg/kg (ppb)

4

PCB METHOD BLANK SUMMARY

BLANK NO.

AMV1MBS1

Lab Name: ANALYTICAL RESOURCES INC

Client: JORGENSEN FORGE

ARI Job No.: AMV1

Project: JFOS3

Lab Sample ID: AMV1MBS1

Lab File ID: 09221517

Date Extracted: 09/21/15

Matrix: SOLID

Date Analyzed: 09/22/15

Instrument ID: ECD7

Time Analyzed: 1146

GC Columns: ZB5/ZB35

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS and MSD:

	CLIENT SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED
01	266-B11-2+06	AMV1A	09/22/15
02	266-S14-2+07	AMV1B	09/22/15
03	266-W13-2+07	AMV1C	09/22/15
04	266-N12-2+07	AMV1D	09/22/15
05	266-E15-2+07	AMV1E	09/22/15
06	AMV1LCSS1	AMV1LCSS1	09/22/15

ALL RUNS ARE DUAL COLUMN

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082A
Extraction Method: SW3546
Page 1 of 1

Sample ID: MB-092115
METHOD BLANK

Lab Sample ID: MB-092115
LIMS ID: 15-16831
Matrix: Soil
Data Release Authorized:
Reported: 09/22/15

QC Report No: AMV1-Jorgensen Forge
Project: JFOS3

Date Sampled: NA
Date Received: NA

Date Extracted: 09/21/15
Date Analyzed: 09/22/15 11:46
Instrument/Analyst: ECD7/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes
Florisil Cleanup: No

Sample Amount: 5.00 g
Final Extract Volume: 5.00 mL
Dilution Factor: 1.00
Silica Gel: No

Percent Moisture: NA

CAS Number	Analyte	LOQ	Result
12674-11-2	Aroclor 1016	20	< 20 U
53469-21-9	Aroclor 1242	20	< 20 U
12672-29-6	Aroclor 1248	20	< 20 U
11097-69-1	Aroclor 1254	20	< 20 U
11096-82-5	Aroclor 1260	20	< 20 U
11104-28-2	Aroclor 1221	20	< 20 U
11141-16-5	Aroclor 1232	20	< 20 U
37324-23-5	Aroclor 1262	20	< 20 U
11100-14-4	Aroclor 1268	20	< 20 U

Reported in µg/kg (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	77.0%
Tetrachlorometaxylene	64.2%

6F

8082 INITIAL CALIBRATION OF AROCLOR 1016/1260

Lab Name: ANALYTICAL RESOURCES INC Client: JORGENSEN

ARI Job No.: AMV1 Project: JFOS3

GC Column: ZB5 Instrument ID: ECD7

Calibration Date: 08/03/15

SURROGATES

RT WIN	LVL1	LVL2	LVL3	LVL4	LVL5	LVL6	MEAN	%RSD
TCX 6.17- 6.37	0.4595	0.5114	0.5438	0.5434	0.5583	0.5704	0.5312	7.6
DCB 14.74-14.94	1.7111	1.7198	1.4821	1.4035	1.2882	1.3482	1.4921	12.4

Aroclor-1016 Peak RT WIN	LVL1 .02	LVL2 0.05	LVL3 0.1	LVL4 .25	LVL5 0.5	LVL6 1.0	MEAN	%RSD R^2
1 8.18- 8.38	0.0127	0.0137	0.0140	0.0130	0.0125	0.0119	0.0129	6.0
2 8.66- 8.86	0.0388	0.0418	0.0425	0.0396	0.0390	0.0384	0.0400	4.3
3 8.96- 9.16	0.0123	0.0144	0.0149	0.0140	0.0138	0.0134	0.0138	6.5
4 9.75- 9.95	0.0139	0.0149	0.0160	0.0148	0.0146	0.0141	0.0147	4.9

AROCLOR AVERAGE %RSD = 5.4

Aroclor-1260 Peak RT WIN	LVL1 .02	LVL2 0.05	LVL3 0.1	LVL4 .25	LVL5 0.5	LVL6 1.0	MEAN	%RSD R^2
1 12.30-12.50	0.0491	0.0528	0.0511	0.0511	0.0472	0.0497	0.0502	3.9
2 12.98-13.18	0.1300	0.1509	0.1533	0.1635	0.1585	0.1747	0.1551	9.6
3 13.36-13.56	0.0548	0.0622	0.0625	0.0650	0.0614	0.0659	0.0620	6.4
4 13.46-13.66	0.0356	0.0404	0.0408	0.0424	0.0400	0.0425	0.0403	6.3
5 13.86-14.06	0.0162	0.0197	0.0199	0.0205	0.0194	0.0207	0.0194	8.4

AROCLOR AVERAGE %RSD = 6.9

6F

8082 INITIAL CALIBRATION OF AROCLOR 1016/1260

Lab Name: ANALYTICAL RESOURCES INC Client: JORGENSEN

ARI Job No.: AMV1 Project: JFOS3

GC Column: ZB35 Instrument ID: ECD7

Calibration Date: 08/03/15

SURROGATES

RT WIN	LVL1	LVL2	LVL3	LVL4	LVL5	LVL6	MEAN	%RSD
TCX 6.56- 6.76	0.9749	1.0337	1.0794	1.0345	1.0222	0.9958	1.0234	3.5
DCB 15.22-15.42	1.1059	1.0972	1.1143	1.0244	1.0035	0.9886	1.0556	5.3

Aroclor-1016 Peak RT WIN	LVL1 .02	LVL2 0.05	LVL3 0.1	LVL4 .25	LVL5 0.5	LVL6 1.0	MEAN	%RSD R^2
1 8.68- 8.88	0.0481	0.0478	0.0466	0.0414	0.0386	0.0357	0.0430	12.2
2 9.38- 9.58	0.0957	0.0955	0.0955	0.0864	0.0833	0.0792	0.0893	8.2
3 9.80-10.00	0.0250	0.0256	0.0255	0.0230	0.0217	0.0205	0.0236	9.1
4 10.35-10.55	0.0339	0.0347	0.0339	0.0302	0.0285	0.0267	0.0313	10.5

AROCLOR AVERAGE %RSD = 10.0

Aroclor-1260 Peak RT WIN	LVL1 .02	LVL2 0.05	LVL3 0.1	LVL4 .25	LVL5 0.5	LVL6 1.0	MEAN	%RSD R^2
1 12.90-13.10	0.0940	0.0922	0.0897	0.0799	0.0745	0.0713	0.0836	11.5
2 13.56-13.76	0.1992	0.2005	0.1998	0.1867	0.1792	0.1768	0.1904	5.7
3 13.99-14.19	0.0651	0.0649	0.0637	0.0574	0.0536	0.0519	0.0594	10.0
4 14.04-14.24	0.1332	0.1340	0.1333	0.1212	0.1155	0.1129	0.1250	7.7

AROCLOR AVERAGE %RSD = 8.7

6G

8082 INITIAL CALIBRATION OF SINGLE POINT PCBs

Lab Name: ANALYTICAL RESOURCES INC Client: JORGENSEN

ARI Job No.: AMV1 Project: JFOS3

GC Column: ZB5 Instrument ID: ECD7

Calibration Date: 08/03/15

Aroclor-1221			
Peak	RT	RT WIN	Cal Factor
1	4.946	4.85- 5.05	0.00300
2	6.923	6.82- 7.02	0.00486
3	7.047	6.95- 7.15	0.01455

Aroclor-1232			
Peak	RT	RT WIN	Cal Factor
1	4.946	4.85- 5.05	0.00172
2	7.046	6.95- 7.15	0.00980
3	8.759	8.66- 8.86	0.01696
4	9.658	9.56- 9.76	0.00541

Aroclor-1242			
Peak	RT	RT WIN	Cal Factor
1	8.766	8.67- 8.87	0.03076
2	9.065	8.96- 9.16	0.01109
3	10.299	10.20-10.40	0.01405
4	10.545	10.45-10.64	0.01578

Aroclor-1248			
Peak	RT	RT WIN	Cal Factor
1	9.405	9.31- 9.51	0.00882
2	9.849	9.75- 9.95	0.02086
3	10.298	10.20-10.40	0.02446
4	10.544	10.44-10.64	0.02496

6G

8082 INITIAL CALIBRATION OF SINGLE POINT PCBs

Lab Name: ANALYTICAL RESOURCES INC Client: JORGENSEN

ARI Job No.: AMV1 Project: JFOS3

GC Column: ZB5 Instrument ID: ECD7

Calibration Date: 08/03/15

Aroclor-1254			
Peak	RT	RT WIN	Cal Factor
1	10.307	10.21-10.41	0.01523
2	10.627	10.53-10.73	0.02246
3	11.008	10.91-11.11	0.01795
4	11.146	11.05-11.25	0.03393
5	11.859	11.76-11.96	0.02473

Aroclor-1262			
Peak	RT	RT WIN	Cal Factor
1	12.408	12.31-12.51	0.10383
2	13.085	12.99-13.19	0.27054
3	13.461	13.36-13.56	0.07188
4	13.625	13.52-13.72	0.12224
5	14.171	14.07-14.27	0.10332

Aroclor-1268			
Peak	RT	RT WIN	Cal Factor
1	13.561	13.46-13.66	0.24308
2	13.623	13.52-13.72	0.23035
3	13.949	13.85-14.05	0.20684
4	14.555	14.46-14.66	0.63060

6G

8082 INITIAL CALIBRATION OF SINGLE POINT PCBs

Lab Name: ANALYTICAL RESOURCES INC Client: JORGENSEN

ARI Job No.: AMV1 Project: JFOS3

GC Column: ZB35 Instrument ID: ECD7

Calibration Date: 08/03/15

Aroclor-1221			
Peak	RT	RT WIN	Cal Factor
1	5.744	5.64- 5.84	0.00821
2	7.471	7.37- 7.57	0.01368
3	7.773	7.67- 7.87	0.00799
4	7.913	7.81- 8.01	0.02412

Aroclor-1232			
Peak	RT	RT WIN	Cal Factor
1	5.744	5.64- 5.84	0.00506
2	7.912	7.81- 8.01	0.01726
3	8.762	8.66- 8.86	0.01985
4	9.890	9.79- 9.99	0.01037

Aroclor-1242			
Peak	RT	RT WIN	Cal Factor
1	8.777	8.68- 8.88	0.03253
2	9.483	9.38- 9.58	0.06762
3	10.903	10.80-11.00	0.02930
4	11.346	11.25-11.45	0.02943

Aroclor-1248			
Peak	RT	RT WIN	Cal Factor
1	9.474	9.37- 9.57	0.04417
2	10.449	10.35-10.55	0.03719
3	10.983	10.88-11.08	0.03822
4	11.345	11.24-11.44	0.04818

6G

8082 INITIAL CALIBRATION OF SINGLE POINT PCBs

Lab Name: ANALYTICAL RESOURCES INC Client: JORGENSEN

ARI Job No.: AMV1 Project: JFOS3

GC Column: ZB35 Instrument ID: ECD7

Calibration Date: 08/03/15

Aroclor-1254			
Peak	RT	RT WIN	Cal Factor
1	11.215	11.11-11.31	0.04173
2	11.313	11.21-11.41	0.01974
3	11.752	11.65-11.85	0.03299
4	11.904	11.80-12.00	0.06503
5	12.684	12.58-12.78	0.04305

Aroclor-1262			
Peak	RT	RT WIN	Cal Factor
1	12.993	12.89-13.09	0.15518
2	13.428	13.33-13.53	0.14324
3	13.656	13.56-13.76	0.29125
4	14.091	13.99-14.19	0.12507
5	14.686	14.59-14.79	0.09594

Aroclor-1268			
Peak	RT	RT WIN	Cal Factor
1	14.090	13.99-14.19	0.21797
2	14.144	14.04-14.24	0.20396
3	14.454	14.35-14.55	0.16487
4	15.033	14.93-15.13	0.46628

7F

PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES INC Client: JORGENSEN

ARI Job No.: AMV1 Project: JFOS3

GC Column: ZB5 Intrument: ECD7

Init. Calib. Date: 08/03/15

Date Analyzed :09/22/15

Lab Standard ID: AR1248 Time Analyzed :1104

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1248-1	9.41	9.31	9.51	268.1	250.0	7.2
Aroclor-1248-2	9.85	9.75	9.95	276.6	250.0	10.6
Aroclor-1248-3	10.30	10.20	10.40	284.5	250.0	13.8
Aroclor-1248-4	10.54	10.44	10.64	294.8	250.0	17.9

AROCLOR AVG: 281.0 CAL %D = 12.4

7F

PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES INC Client: JORGENSEN

ARI Job No.: AMV1 Project: JFOS3

GC Column: ZB5 Intrument: ECD7

Init. Calib. Date: 08/03/15

Date Analyzed :09/22/15

Lab Standard ID: AR1660 Time Analyzed :1125

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1016-1	8.28	8.18	8.38	256.3	250.0	2.5
Aroclor-1016-2	8.77	8.66	8.86	254.8	250.0	1.9
Aroclor-1016-3	9.06	8.96	9.16	258.3	250.0	3.3
Aroclor-1016-4	9.85	9.75	9.95	264.5	250.0	5.8

AROCLOR AVG: 258.5 CAL %D = 3.4

Date Analyzed :09/22/15

Lab Standard ID: AR1660 Time Analyzed :1125

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1260-1	12.41	12.30	12.50	300.9	250.0	20.4
Aroclor-1260-2	13.08	12.98	13.18	295.7	250.0	18.3
Aroclor-1260-3	13.46	13.36	13.56	292.8	250.0	17.1
Aroclor-1260-4	13.56	13.46	13.66	287.5	250.0	15.0
Aroclor-1260-5	13.96	13.86	14.06	285.3	250.0	14.1

AROCLOR AVG: 292.4 CAL %D = 17.0

7F

PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES INC Client: JORGENSEN

ARI Job No.: AMV1 Project: JFOS3

GC Column: ZB5 Intrument: ECD7

Init. Calib. Date: 08/03/15

Date Analyzed :09/22/15

Lab Standard ID: AR1660 Time Analyzed :1415

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1016-1	8.28	8.18	8.38	256.0	250.0	2.4
Aroclor-1016-2	8.76	8.66	8.86	255.1	250.0	2.0
Aroclor-1016-3	9.06	8.96	9.16	259.5	250.0	3.8
Aroclor-1016-4	9.85	9.75	9.95	266.4	250.0	6.5

AROCLOR AVG: 259.2 CAL %D = 3.7

Date Analyzed :09/22/15

Lab Standard ID: AR1660 Time Analyzed :1415

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1260-1	12.40	12.30	12.50	287.1	250.0	14.8
Aroclor-1260-2	13.08	12.98	13.18	283.3	250.0	13.3
Aroclor-1260-3	13.46	13.36	13.56	281.9	250.0	12.7
Aroclor-1260-4	13.56	13.46	13.66	275.4	250.0	10.2
Aroclor-1260-5	13.96	13.86	14.06	277.6	250.0	11.0

AROCLOR AVG: 281.1 CAL %D = 12.4

7F

PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES INC Client: JORGENSEN

ARI Job No.: AMV1 Project: JFOS3

GC Column: ZB5 Intrument: ECD7

Init. Calib. Date: 08/03/15

Date Analyzed :09/22/15

Lab Standard ID: AR1242 Time Analyzed :1437

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1242-1	8.77	8.67	8.87	256.6	250.0	2.6
Aroclor-1242-2	9.06	8.96	9.16	254.1	250.0	1.6
Aroclor-1242-3	10.30	10.20	10.40	261.2	250.0	4.5
Aroclor-1242-4	10.54	10.45	10.64	262.2	250.0	4.9

AROCLOR AVG: 258.5 CAL %D = 3.4

FORM VII PCB

7F

PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES INC Client: JORGENSEN

ARI Job No.: AMV1 Project: JFOS3

GC Column: ZB35 Intrument: ECD7

Init. Calib. Date: 08/03/15

Date Analyzed :09/22/15

Lab Standard ID: AR1248 Time Analyzed :1104

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1248-1	9.47	9.37	9.57	258.1	250.0	3.2
Aroclor-1248-2	10.45	10.35	10.55	200.7	250.0	-19.7
Aroclor-1248-3	10.98	10.88	11.08	247.8	250.0	-0.9
Aroclor-1248-4	11.34	11.24	11.44	244.1	250.0	-2.4

AROCLOR AVG: 237.7 CAL %D = -4.9

FORM VII PCB

7F

PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES INC Client: JORGENSEN

ARI Job No.: AMV1 Project: JFOS3

GC Column: ZB35 Intrument: ECD7

Init. Calib. Date: 08/03/15

Date Analyzed :09/22/15

Lab Standard ID: AR1660 Time Analyzed :1125

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1016-1	8.78	8.68	8.88	244.3	250.0	-2.3
Aroclor-1016-2	9.48	9.38	9.58	248.8	250.0	-0.5
Aroclor-1016-3	9.90	9.80	10.00	253.7	250.0	1.5
Aroclor-1016-4	10.45	10.35	10.55	193.1	250.0	-22.8

AROCLOR AVG: 235.0 CAL %D = -6.0

Date Analyzed :09/22/15

Lab Standard ID: AR1660 Time Analyzed :1125

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1260-1	13.00	12.90	13.10	272.5	250.0	9.0
Aroclor-1260-2	13.66	13.56	13.76	251.1	250.0	0.4
Aroclor-1260-3	14.09	13.99	14.19	232.3	250.0	-7.1
Aroclor-1260-4	14.14	14.04	14.24	233.1	250.0	-6.7

AROCLOR AVG: 247.3 CAL %D = -1.1

FORM VII PCB

7F

PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES INC Client: JORGENSEN

ARI Job No.: AMV1 Project: JFOS3

GC Column: ZB35 Intrument: ECD7

Init. Calib. Date: 08/03/15

Date Analyzed :09/22/15

Lab Standard ID: AR1660 Time Analyzed :1415

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1016-1	8.78	8.68	8.88	245.9	250.0	-1.6
Aroclor-1016-2	9.48	9.38	9.58	250.7	250.0	0.3
Aroclor-1016-3	9.90	9.80	10.00	255.6	250.0	2.2
Aroclor-1016-4	10.45	10.35	10.55	194.2	250.0	-22.3

AROCLOR AVG: 236.6 CAL %D = -5.4

Date Analyzed :09/22/15

Lab Standard ID: AR1660 Time Analyzed :1415

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1260-1	13.00	12.90	13.10	277.1	250.0	10.8
Aroclor-1260-2	13.66	13.56	13.76	266.6	250.0	6.6
Aroclor-1260-3	14.09	13.99	14.19	247.9	250.0	-0.8
Aroclor-1260-4	14.14	14.04	14.24	247.5	250.0	-1.0

AROCLOR AVG: 259.8 CAL %D = 3.9

FORM VII PCB

7F

PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES INC Client: JORGENSEN

ARI Job No.: AMV1 Project: JFOS3

GC Column: ZB35 Intrument: ECD7

Init. Calib. Date: 08/03/15

Date Analyzed :09/22/15

Lab Standard ID: AR1242 Time Analyzed :1437

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1242-1	8.78	8.68	8.88	249.7	250.0	-0.1
Aroclor-1242-2	9.48	9.38	9.58	252.4	250.0	1.0
Aroclor-1242-3	10.90	10.80	11.00	250.8	250.0	0.3
Aroclor-1242-4	11.35	11.25	11.45	253.4	250.0	1.4

AROCLOR AVG: 251.6 CAL %D = 0.6

FORM VII PCB

FORM 8
PCB INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ANALYTICAL RESOURCES INC Client: JORGENSEN

ARI Job No.: AMV1 Project: JFOS3

GC Column: ZB5 ID: 0.53(mm) Instrument ID: ECD7

Init. Calib. Date: 08/03/15

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS, SAMPLES, AND STANDARDS IS GIVEN BELOW:

		IS1 AREA	RT	IS2 AREA	RT
	ICAL MIDPT	6328212	3.263	5068453	15.102
	UPPER LIMIT	12656424	3.363	10136906	15.202
	LOWER LIMIT	3164106	3.163	2534226	15.002

	CLIENT SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED	TIME	IS1 AREA	RT	IS2 AREA	RT
01	ZZZZZ	ZZZZZ	08/03/15	1716	6222621	3.258	5047030	15.102
02		0.25PPMAR166	08/03/15	1737	6328212	3.263	5068453	15.102
03		0.02PPMAR166	08/03/15	1758	6326177	3.262	5154907	15.102
04		0.05PPMAR166	08/03/15	1820	6210580	3.264	5033371	15.102
05		1PPMAR1660	08/03/15	1841	6160991	3.266	4985647	15.103
06		0.1PPMAR1660	08/03/15	1902	6344317	3.268	5407220	15.103
07		0.5PPMAR1660	08/03/15	1924	6159955	3.267	5303929	15.103
08		AR1242	08/03/15	1945	6219986	3.265	5066767	15.103
09		AR1248	08/03/15	2007	6249050	3.265	5356854	15.103
10		AR1254	08/03/15	2028	6326911	3.267	5032449	15.103
11		AR2162	08/03/15	2049	6246099	3.266	4938617	15.103
12		AR3268	08/03/15	2111	6259531	3.265	5003661	15.103
13	ZZZZZ	ZZZZZ	08/03/15	2132	6338133	3.267	5037306	15.103
14	ZZZZZ	ZZZZZ	08/03/15	2153	6038309	3.262	5048403	15.103
15	ZZZZZ	ZZZZZ	08/03/15	2214	6208035	3.265	5032536	15.103
16	ZZZZZ	ZZZZZ	08/03/15	2236	6278544	3.265	5100405	15.103
17	ZZZZZ	ZZZZZ	08/03/15	2257	6251565	3.264	5061467	15.103
18	ZZZZZ	ZZZZZ	08/03/15	2318	6317415	3.264	5061451	15.102
19		AR1248	09/22/15	1104	6712755	3.281	4470958	15.096
20		AR1660	09/22/15	1125	6566937	3.279	4349495	15.096
21	AMV1MBS1	AMV1MBS1	09/22/15	1146	9947714	3.281	6557995	15.096
22	266-B11-2+06	AMV1A	09/22/15	1208	9830559	3.279	6419183	15.096
23	266-S14-2+07	AMV1B	09/22/15	1229	10170491	3.280	7008565	15.096
24	266-W13-2+07	AMV1C	09/22/15	1250	10591985	3.279	7139740	15.096
25	266-N12-2+07	AMV1D	09/22/15	1312	10081532	3.279	6722820	15.096
26	266-E15-2+07	AMV1E	09/22/15	1333	10236778	3.279	7029346	15.095
27	AMV1LCSS1	AMV1LCSS1	09/22/15	1354	10241025	3.277	7036048	15.095
28		AR1660	09/22/15	1415	6859112	3.279	4884863	15.096
29		AR1242	09/22/15	1437	8355149	3.279	5855914	15.096

IS1 = 1-Bromo-2-Nitrobenzene RT Window = RT +/- 0.1 min
IS2 = Hexabromobiphenyl

* Indicates value outside QC Limits

FORM VIII PCB

FORM 8
PCB INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ANALYTICAL RESOURCES INC Client: JORGENSEN

ARI Job No.: AMV1 Project: JFOS3

GC Column: ZB35 ID: 0.53(mm) Instrument ID: ECD7

Init. Calib. Date: 08/03/15

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS, SAMPLES, AND STANDARDS IS GIVEN BELOW:

			IS1 AREA	RT	IS2 AREA	RT
		ICAL MIDPT	12901249	4.365	7598346	15.906
		UPPER LIMIT	25802498	4.465	15196692	16.006
		LOWER LIMIT	6450624	4.265	3799173	15.806

	CLIENT SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED	TIME	IS1 AREA	RT	IS2 AREA	RT
01	ZZZZZ	ZZZZZ	08/03/15	1716	12615423	4.360	7577981	15.906
02		0.25PPMAR166	08/03/15	1737	12901249	4.365	7598346	15.906
03		0.02PPMAR166	08/03/15	1758	12889538	4.366	7674080	15.906
04		0.05PPMAR166	08/03/15	1820	12701605	4.367	7596138	15.906
05		1PPMAR1660	08/03/15	1841	12722963	4.369	7648810	15.907
06		0.1PPMAR1660	08/03/15	1902	13013744	4.371	7786984	15.907
07		0.5PPMAR1660	08/03/15	1924	12706249	4.370	7776969	15.907
08		AR1242	08/03/15	1945	12825517	4.369	7804063	15.906
09		AR1248	08/03/15	2007	12932061	4.369	7871936	15.906
10		AR1254	08/03/15	2028	13098041	4.370	7793570	15.907
11		AR2162	08/03/15	2049	12808024	4.369	7735916	15.907
12		AR3268	08/03/15	2111	12831845	4.369	7828166	15.907
13	ZZZZZ	ZZZZZ	08/03/15	2132	13048327	4.369	7840797	15.907
14	ZZZZZ	ZZZZZ	08/03/15	2153	12451023	4.366	7728754	15.907
15	ZZZZZ	ZZZZZ	08/03/15	2214	12732082	4.367	7695088	15.907
16	ZZZZZ	ZZZZZ	08/03/15	2236	12892489	4.368	7804248	15.906
17	ZZZZZ	ZZZZZ	08/03/15	2257	12666986	4.367	7848857	15.907
18	ZZZZZ	ZZZZZ	08/03/15	2318	12781896	4.367	7841933	15.907
19		AR1248	09/22/15	1104	11679311	4.392	5350597	15.906
20		AR1660	09/22/15	1125	11412547	4.389	5110977	15.907
21	AMV1MBS1	AMV1MBS1	09/22/15	1146	16648946	4.392	7531995	15.906
22	266-B11-2+06	AMV1A	09/22/15	1208	15964806	4.391	7689824	15.906
23	266-S14-2+07	AMV1B	09/22/15	1229	16611936	4.391	7915200	15.907
24	266-W13-2+07	AMV1C	09/22/15	1250	17195748	4.390	8364069	15.907
25	266-N12-2+07	AMV1D	09/22/15	1312	16002375	4.390	8038620	15.906
26	266-E15-2+07	AMV1E	09/22/15	1333	16778478	4.389	8270403	15.906
27	AMV1LCSS1	AMV1LCSS1	09/22/15	1354	16998302	4.389	8081416	15.907
28		AR1660	09/22/15	1415	11818995	4.390	5688925	15.907
29		AR1242	09/22/15	1437	14410650	4.390	6806718	15.907

IS1 = 1-Bromo-2-Nitrobenzene RT Window = RT +/- 0.1 min
IS2 = Hexabromobiphenyl

* Indicates value outside QC Limits

FORM VIII PCB

Analytical Resources, Inc. Report No. AMW0

Analytical Resources, Incorporated
Analytical Chemists and Consultants

5 October 2015

Dee Gardner
Sound Earth Strategies, Inc.
2811 Fairview Avenue East, Suite 2000
Seattle, WA 98102

RE: JFOS3
ARI Job No.: AMW0

Dear Dee:

Please find enclosed the original chain of custody record and the final results for the samples from the project referenced above. Analytical Resources, Inc. received two soil samples on September 21, 2015. The samples were analyzed for PCBs as requested.

These analyses proceeded without incident of note.

If you have any questions regarding these results, please feel free to contact me at your convenience.

Sincerely,

ANALYTICAL RESOURCES, INC.

Mark D. Harris
Project Manager
206/695-6210
markh@arilabs.com

cc: Miles Dyer, Jorgensen Forge
file AMW0

Enclosures

4611 South 134th Place, Suite 100 • Tukwila WA 98168 • **206-695-6200** • **206-695-6201** fax

Chain of Custody Record & Laboratory Analysis Request

ARI Assigned Number: AMW8	Turn-around Requested: NORMAL/STANDARD	Page: 1 of 1	
ARI Client Company: JORGENSEN FORGE CORP.	Phone: 206.762.1100	Date: 9/21/15	Ice Present?
Client Contact: MILES DYER		No. of Coolers:	Cooler Temps:
Client Project Name: JFOS3			
Client Project #:	Samplers: J. LOEFFLER		

Analytical Resources, Incorporated
Analytical Chemists and Consultants
4611 South 134th Place, Suite 100
Tukwila, WA 98168
206-695-6200 206-695-6201 (fax)
www.arilabs.com

Sample ID	Date	Time	Matrix	No. Containers	Analysis Requested: PCBs by EPA 8082	Notes/Comments
JFOS3-PC09+15	9/21/15	1418	SOIL	1	X	STAGE 2B REPORTING PER SAP/QAPP
JFOS3-PC10+15	9/21/15	1420	SOIL	1	X	

9/21/15

Comments/Special Instructions	Relinquished by: (Signature)	Received by: (Signature)	Relinquished by: (Signature)	Received by: (Signature)
CC: DEE GARDNER AND JONATHAN LOEFFLER AT SOUNDEARTH dgardner@soundearthinc.com AND jloeffler@soundearthinc.com	Printed Name: JONATHAN LOEFFLER	Printed Name: Emily Litwin	Printed Name:	Printed Name:
	Company: SOUNDEARTH	Company: ARI	Company:	Company:
	Date & Time: 9/21/15 @ 1549	Date & Time: 9/21/15 1549	Date & Time:	Date & Time:

Limits of Liability: *ARI will perform all requested services in accordance with appropriate methodology following ARI Standard Operating Procedures and the ARI Quality Assurance Program. This program meets standards for the industry. The total liability of ARI, its officers, agents, employees, or successors, arising out of or in connection with the requested services, shall not exceed the invoiced amount for said services. The acceptance by the client of a proposal for services by ARI release ARI from any liability in excess thereof, not withstanding any provision to the contrary in any contract, purchase order or co-signed agreement between ARI and the Client.*

Sample Retention Policy: All samples submitted to ARI will be appropriately discarded no sooner than 90 days after receipt or 60 days after submission of hardcopy data, whichever is longer, unless alternate retention schedules have been established by work-order or contract.

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Cooler Receipt Form

ARI Client: Jurgensen Forge Project Name: JFOS3

COC No(s): _____ (NA) Delivered by: Fed-Ex UPS Courier Hand Delivered Other: _____

Assigned ARI Job No: AMW0 Tracking No: _____ (NA)

Preliminary Examination Phase:

Were intact, properly signed and dated custody seals attached to the outside of to cooler?	YES	(NO)
Were custody papers included with the cooler?	(YES)	NO
Were custody papers properly filled out (ink, signed, etc.)	(YES)	NO

Temperature of Cooler(s) (°C) (recommended 2.0-6.0 °C for chemistry) 5.0 ___ ___ ___ ___
Time: _____

If cooler temperature is out of compliance fill out form 00070F Temp Gun ID#: D02505

Cooler Accepted by: [signature] Date: 9/21/15 Time: 1649

Complete custody forms and attach all shipping documents

Log-In Phase:

Was a temperature blank included in the cooler?		YES	NO
What kind of packing material was used? ... Bubble Wrap (Wet Ice) Gel Packs (Baggies) Foam Block Paper Other: _____			
Was sufficient ice used (if appropriate)?	NA	(YES)	NO
Were all bottles sealed in individual plastic bags?		(YES)	NO
Did all bottles arrive in good condition (unbroken)?		(YES)	NO
Were all bottle labels complete and legible?		(YES)	NO
Did the number of containers listed on COC match with the number of containers received?		(YES)	NO
Did all bottle labels and tags agree with custody papers?		(YES)	NO
Were all bottles used correct for the requested analyses?		(YES)	NO
Do any of the analyses (bottles) require preservation? (attach preservation sheet, excluding VOCs)...	NA	YES	(NO)
Were all VOC vials free of air bubbles?	(NA)	YES	NO
Was sufficient amount of sample sent in each bottle?		(YES)	NO
Date VOC Trip Blank was made at ARI...	(NA)		_____

Was Sample Split by ARI : (NA) YES Date/Time: _____ Equipment: _____ Split by: _____

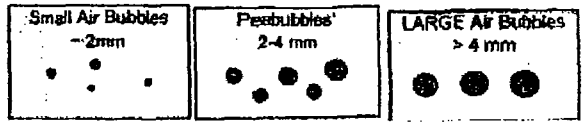
Samples Logged by: [signature] Date: 9/21 Time: 1700

*** Notify Project Manager of discrepancies or concerns ***

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Additional Notes, Discrepancies, & Resolutions:

By: _____ Date: _____



Small → "sm" (< 2 mm)
Peabubbles → "pb" (2 to < 4 mm)
Large → "lg" (4 to < 6 mm)
Headspace → "hs" (> 6 mm)

Sample ID Cross Reference Report

ANALYTICAL RESOURCES INCORPORATED

ARI Job No: AMW0
Client: Jorgensen Forge
Project Event: N/A
Project Name: JFOS3

	Sample ID	ARI Lab ID	ARI LIMS ID	Matrix	Sample Date/Time	VTSR
1.	JFOS3-PC09+15	AMW0A	15-16893	Soil	09/21/15 14:18	09/21/15 15:49
2.	JFOS3-PC10+15	AMW0B	15-16894	Soil	09/21/15 14:20	09/21/15 15:49

Analytical Resources,
Incorporated
Analytical Chemists and
Consultants

Data Reporting Qualifiers

Effective 12/31/13

Inorganic Data

U	Indicates that the target analyte was not detected at the reported concentration
*	Duplicate RPD is not within established control limits
B	Reported value is less than the CRDL but ≥ the Reporting Limit
N	Matrix Spike recovery not within established control limits
NA	Not Applicable, analyte not spiked
H	The natural concentration of the spiked element is so much greater than the concentration spiked that an accurate determination of spike recovery is not possible
L	Analyte concentration is ≤5 times the Reporting Limit and the replicate control limit defaults to ±1 RL instead of the normal 20% RPD

Organic Data

U	Indicates that the target analyte was not detected at the reported concentration
*	Flagged value is not within established control limits
B	Analyte detected in an associated Method Blank at a concentration greater than one-half of ARI's Reporting Limit or 5% of the regulatory limit or 5% of the analyte concentration in the sample.
J	Estimated concentration when the value is less than ARI's established reporting limits
D	The spiked compound was not detected due to sample extract dilution
E	Estimated concentration calculated for an analyte response above the valid instrument calibration range. A dilution is required to obtain an accurate quantification of the analyte.

Q	Indicates a detected analyte with an initial or continuing calibration that does not meet established acceptance criteria (<20%RSD, <20%Drift or minimum RRF).
S	Indicates an analyte response that has saturated the detector. The calculated concentration is not valid; a dilution is required to obtain valid quantification of the analyte
NA	The flagged analyte was not analyzed for
NR	Spiked compound recovery is not reported due to chromatographic interference
NS	The flagged analyte was not spiked into the sample
M	Estimated value for an analyte detected and confirmed by an analyst but with low spectral match parameters. This flag is used only for GC-MS analyses
N	The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification"
Y	The analyte is not detected at or above the reported concentration. The reporting limit is raised due to chromatographic interference. The Y flag is equivalent to the U flag with a raised reporting limit.
EMPC	Estimated Maximum Possible Concentration (EMPC) defined in EPA Statement of Work DLM02.2 as a value "calculated for 2,3,7,8-substituted isomers for which the quantitation and /or confirmation ion(s) has signal to noise in excess of 2.5, but does not meet identification criteria" **(Dioxin/Furan analysis only)**
C	The analyte was positively identified on only one of two chromatographic columns. Chromatographic interference prevented a positive identification on the second column
P	The analyte was detected on both chromatographic columns but the quantified values differ by ≥40% RPD with no obvious chromatographic interference
X	Analyte signal includes interference from polychlorinated diphenyl ethers. **(Dioxin/Furan analysis only)**
Z	Analyte signal includes interference from the sample matrix or perfluorokerosene ions. **(Dioxin/Furan analysis only)**

Geotechnical Data

A	The total of all fines fractions. This flag is used to report total fines when only sieve analysis is requested and balances total grain size with sample weight.
F	Samples were frozen prior to particle size determination
SM	Sample matrix was not appropriate for the requested analysis. This normally refers to samples contaminated with an organic product that interferes with the sieving process and/or moisture content, porosity and saturation calculations
SS	Sample did not contain the proportion of "fines" required to perform the pipette portion of the grain size analysis
W	Weight of sample in some pipette aliquots was below the level required for accurate weighting

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082A
Extraction Method: SW3546
Page 1 of 1

Sample ID: JFOS3-PC09+15
SAMPLE

Lab Sample ID: AMW0A
LIMS ID: 15-16893
Matrix: Soil
Data Release Authorized:
Reported: 10/02/15

QC Report No: AMW0-Jorgensen Forge
Project: JFOS3

Date Sampled: 09/21/15
Date Received: 09/21/15

Date Extracted: 09/24/15
Date Analyzed: 10/01/15 06:07
Instrument/Analyst: ECD7/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes
Florisil Cleanup: No

Sample Amount: 5.74 g-dry-wt
Final Extract Volume: 5.00 mL
Dilution Factor: 1.00
Silica Gel: No

Percent Moisture: 4.9%

CAS Number	Analyte	LOQ	Result
12674-11-2	Aroclor 1016	17	< 17 U
53469-21-9	Aroclor 1242	17	< 17 U
12672-29-6	Aroclor 1248	17	< 17 U
11097-69-1	Aroclor 1254	17	< 17 U
11096-82-5	Aroclor 1260	17	< 17 U
11104-28-2	Aroclor 1221	17	< 17 U
11141-16-5	Aroclor 1232	17	< 17 U
37324-23-5	Aroclor 1262	17	< 17 U
11100-14-4	Aroclor 1268	17	< 17 U

Reported in µg/kg (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	78.0%
Tetrachlorometaxylene	88.2%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082A
Extraction Method: SW3546
Page 1 of 1

Sample ID: JFOS3-PC10+15
SAMPLE

Lab Sample ID: AMW0B
LIMS ID: 15-16894
Matrix: Soil
Data Release Authorized:
Reported: 10/02/15

QC Report No: AMW0-Jorgensen Forge
Project: JFOS3

Date Sampled: 09/21/15
Date Received: 09/21/15

Date Extracted: 09/24/15
Date Analyzed: 10/01/15 06:28
Instrument/Analyst: ECD7/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes
Florisil Cleanup: No

Sample Amount: 5.75 g-dry-wt
Final Extract Volume: 5.00 mL
Dilution Factor: 1.00
Silica Gel: No

Percent Moisture: 4.8%

CAS Number	Analyte	LOQ	Result
12674-11-2	Aroclor 1016	17	< 17 U
53469-21-9	Aroclor 1242	17	< 17 U
12672-29-6	Aroclor 1248	17	< 17 U
11097-69-1	Aroclor 1254	17	< 17 U
11096-82-5	Aroclor 1260	17	< 17 U
11104-28-2	Aroclor 1221	17	< 17 U
11141-16-5	Aroclor 1232	17	< 17 U
37324-23-5	Aroclor 1262	17	< 17 U
11100-14-4	Aroclor 1268	17	< 17 U

Reported in µg/kg (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	75.2%
Tetrachlorometaxylene	81.5%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082A
Extraction Method: SW3546
Page 1 of 1

Sample ID: MB-092415
METHOD BLANK

Lab Sample ID: MB-092415
LIMS ID: 15-16893
Matrix: Soil
Data Release Authorized:
Reported: 10/02/15

QC Report No: AMW0-Jorgensen Forge
Project: JFOS3

Date Sampled: NA
Date Received: NA

Date Extracted: 09/24/15
Date Analyzed: 10/01/15 05:24
Instrument/Analyst: ECD7/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes
Florisil Cleanup: No

Sample Amount: 5.00 g
Final Extract Volume: 5.00 mL
Dilution Factor: 1.00
Silica Gel: No

Percent Moisture: NA

CAS Number	Analyte	LOQ	Result
12674-11-2	Aroclor 1016	20	< 20 U
53469-21-9	Aroclor 1242	20	< 20 U
12672-29-6	Aroclor 1248	20	< 20 U
11097-69-1	Aroclor 1254	20	< 20 U
11096-82-5	Aroclor 1260	20	< 20 U
11104-28-2	Aroclor 1221	20	< 20 U
11141-16-5	Aroclor 1232	20	< 20 U
37324-23-5	Aroclor 1262	20	< 20 U
11100-14-4	Aroclor 1268	20	< 20 U

Reported in µg/kg (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	80.0%
Tetrachlorometaxylene	88.8%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082A
Page 1 of 1

Sample ID: LCS-092415
LAB CONTROL

Lab Sample ID: LCS-092415
LIMS ID: 15-16893
Matrix: Soil
Data Release Authorized:
Reported: 10/02/15

QC Report No: AMW0-Jorgensen Forge
Project: JFOS3

Date Sampled: NA
Date Received: NA

Date Extracted: 09/24/15
Date Analyzed: 10/01/15 05:46
Instrument/Analyst: ECD7/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes
Florisil Cleanup: No

Sample Amount: 5.00 g-dry-wt
Final Extract Volume: 5.00 mL
Dilution Factor: 1.00
Silica Gel: No

Percent Moisture: NA

Analyte	Lab Control	Spike Added	Recovery
Aroclor 1016	443	500	88.6%
Aroclor 1260	452	500	90.4%

PCB Surrogate Recovery

Decachlorobiphenyl	79.8%
Tetrachlorometaxylene	88.8%

Results reported in µg/kg (ppb)

ANALYTICAL RESOURCES INCORPORATED

SW8082/PCB SOIL/SOLID/SEDIMENT SURROGATE RECOVERY SUMMARY

Matrix: Soil

QC Report No: AMW0-Jorgensen Forge
Project: JFOS3

Client ID	DCBP % REC	DCBP LCL-UCL	TCMX % REC	TCMX LCL-UCL	TOT OUT
MB-092415	80.0%	59-115	88.8%	58-112	0
LCS-092415	79.8%	59-115	88.8%	58-112	0
JFOS3-PC09+15	78.0%	47-120	88.2%	53-116	0
JFOS3-PC10+15	75.2%	47-120	81.5%	53-116	0

Microwave (MARS) Control Limits PCBSMI
Prep Method: SW3546
Log Number Range: 15-16893 to 15-16894

4

PCB METHOD BLANK SUMMARY

BLANK NO.

AMW0MBS1

Lab Name: ANALYTICAL RESOURCES INC

Client: JORGENSEN FORGE

ARI Job No.: AMW0

Project: JFOS3

Lab Sample ID: AMW0MBS1

Lab File ID: 09301542

Date Extracted: 09/24/15

Matrix: SOLID

Date Analyzed: 10/01/15

Instrument ID: ECD7

Time Analyzed: 0524

GC Columns: ZB5/ZB35

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS and MSD:

	CLIENT SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED
01	AMW0LCSS1	AMW0LCSS1	10/01/15
02	JFOS3-PC09+15	AMW0A	10/01/15
03	JFOS3-PC10+15	AMW0B	10/01/15

ALL RUNS ARE DUAL COLUMN

6F

8082 INITIAL CALIBRATION OF AROCLOR 1016/1260

Lab Name: ANALYTICAL RESOURCES INC Client: JORGENSEN FORGE

ARI Job No.: AMW0 Project: JFOS3

GC Column: ZB5 Instrument ID: ECD7

Calibration Date: 09/30/15

SURROGATES

	RT WIN	LVL1	LVL2	LVL3	LVL4	LVL5	LVL6	MEAN	%RSD
TCX	6.18- 6.38	0.4869	0.4885	0.5046	0.5100	0.5313	0.5331	0.5091	3.9
DCB	14.74-14.94	1.9999	1.7489	1.5777	1.4444	1.4611	1.4311	1.6105	14.0

Aroclor-1016 Peak	RT WIN	LVL1 .02	LVL2 0.05	LVL3 0.1	LVL4 .25	LVL5 0.5	LVL6 1.0	MEAN	%RSD R^2
1	8.18- 8.38	0.0141	0.0130	0.0132	0.0124	0.0122	0.0115	0.0127	7.0
2	8.67- 8.87	0.0416	0.0413	0.0411	0.0390	0.0392	0.0379	0.0400	3.8
3	8.97- 9.17	0.0130	0.0141	0.0142	0.0137	0.0137	0.0132	0.0137	3.5
4	9.75- 9.95	0.0153	0.0157	0.0156	0.0148	0.0148	0.0141	0.0150	4.0

AROCLOR AVERAGE %RSD = 4.6

Aroclor-1260 Peak	RT WIN	LVL1 .02	LVL2 0.05	LVL3 0.1	LVL4 .25	LVL5 0.5	LVL6 1.0	MEAN	%RSD R^2
1	12.30-12.50	0.0648	0.0613	0.0605	0.0598	0.0586	0.0568	0.0603	4.5
2	12.98-13.18	0.1631	0.1619	0.1670	0.1740	0.1795	0.1813	0.1711	4.9
3	13.35-13.55	0.0657	0.0653	0.0664	0.0676	0.0680	0.0672	0.0667	1.6
4	13.45-13.65	0.0448	0.0428	0.0430	0.0435	0.0435	0.0425	0.0433	1.9
5	13.86-14.06	0.0220	0.0219	0.0211	0.0209	0.0206	0.0201	0.0211	3.4

AROCLOR AVERAGE %RSD = 3.3

6F

8082 INITIAL CALIBRATION OF AROCLOR 1016/1260

Lab Name: ANALYTICAL RESOURCES INC Client: JORGENSEN FORGE

ARI Job No.: AMW0 Project: JFOS3

GC Column: ZB35 Instrument ID: ECD7

Calibration Date: 09/30/15

SURROGATES

	RT WIN	LVL1	LVL2	LVL3	LVL4	LVL5	LVL6	MEAN	%RSD
TCX	6.56- 6.76	0.9968	0.9652	0.9726	0.9407	0.9402	0.8993	0.9525	3.5
DCB	15.22-15.42	1.6558	1.4818	1.3817	1.2372	1.2518	1.1910	1.3666	13.0

Aroclor-1016 Peak	RT WIN	LVL1 .02	LVL2 0.05	LVL3 0.1	LVL4 .25	LVL5 0.5	LVL6 1.0	MEAN	%RSD R^2
1	8.68- 8.88	0.0518	0.0466	0.0443	0.0397	0.0373	0.0339	0.0423	15.5
2	9.39- 9.59	0.1013	0.0928	0.0905	0.0825	0.0802	0.0746	0.0870	11.1
3	9.80-10.00	0.0256	0.0250	0.0244	0.0222	0.0212	0.0197	0.0230	10.1
4	10.35-10.55	0.0344	0.0324	0.0312	0.0284	0.0272	0.0253	0.0298	11.4

AROCLOR AVERAGE %RSD = 12.1

Aroclor-1260 Peak	RT WIN	LVL1 .02	LVL2 0.05	LVL3 0.1	LVL4 .25	LVL5 0.5	LVL6 1.0	MEAN	%RSD R^2
1	12.81-13.01	0.1411	0.1230	0.1167	0.1066	0.1028	0.0954	0.1143	14.4
2	13.56-13.76	0.2283	0.2154	0.2101	0.1972	0.1977	0.1866	0.2059	7.3
3	13.99-14.19	0.0791	0.0694	0.0650	0.0580	0.0571	0.0530	0.0636	15.1
4	14.04-14.24	0.1561	0.1407	0.1372	0.1237	0.1243	0.1158	0.1330	11.0

AROCLOR AVERAGE %RSD = 11.9

6G

8082 INITIAL CALIBRATION OF SINGLE POINT PCBs

Lab Name: ANALYTICAL RESOURCES INC Client: JORGENSEN FORGE

ARI Job No.: AMW0 Project: JFOS3

GC Column: ZB5 Instrument ID: ECD7

Calibration Date: 09/30/15

Aroclor-1221			
Peak	RT	RT WIN	Cal Factor
1	4.961	4.86- 5.06	0.00283
2	6.935	6.84- 7.04	0.00465
3	7.060	6.96- 7.16	0.01406

Aroclor-1232			
Peak	RT	RT WIN	Cal Factor
1	4.960	4.86- 5.06	0.00157
2	7.057	6.96- 7.16	0.00920
3	8.765	8.66- 8.86	0.01630
4	9.661	9.56- 9.76	0.00525

Aroclor-1242			
Peak	RT	RT WIN	Cal Factor
1	8.768	8.67- 8.87	0.03058
2	9.065	8.97- 9.17	0.01086
3	10.299	10.20-10.40	0.01433
4	10.545	10.45-10.65	0.01603

Aroclor-1248			
Peak	RT	RT WIN	Cal Factor
1	9.403	9.30- 9.50	0.00814
2	9.847	9.75- 9.95	0.01928
3	10.297	10.20-10.40	0.02293
4	10.542	10.44-10.64	0.02321

6G

8082 INITIAL CALIBRATION OF SINGLE POINT PCBs

Lab Name: ANALYTICAL RESOURCES INC Client: JORGENSEN FORGE

ARI Job No.: AMW0 Project: JFOS3

GC Column: ZB5 Instrument ID: ECD7

Calibration Date: 09/30/15

Aroclor-1254			
Peak	RT	RT WIN	Cal Factor
1	10.306	10.21-10.41	0.01495
2	10.626	10.53-10.73	0.02250
3	11.007	10.91-11.11	0.01784
4	11.145	11.04-11.24	0.03371
5	11.859	11.76-11.96	0.02434

Aroclor-1262			
Peak	RT	RT WIN	Cal Factor
1	12.404	12.30-12.50	0.07896
2	13.079	12.98-13.18	0.18539
3	13.454	13.35-13.55	0.04855
4	13.618	13.52-13.72	0.07904
5	14.164	14.06-14.26	0.06398

Aroclor-1268			
Peak	RT	RT WIN	Cal Factor
1	13.555	13.45-13.65	0.23016
2	13.617	13.52-13.72	0.21624
3	13.942	13.84-14.04	0.19228
4	14.547	14.45-14.65	0.54029

6G

8082 INITIAL CALIBRATION OF SINGLE POINT PCBs

Lab Name: ANALYTICAL RESOURCES INC Client: JORGENSEN FORGE

ARI Job No.: AMW0 Project: JFOS3

GC Column: ZB35 Instrument ID: ECD7

Calibration Date: 09/30/15

Aroclor-1221			
Peak	RT	RT WIN	Cal Factor
1	5.768	5.67- 5.87	0.00782
2	7.493	7.39- 7.59	0.01292
3	7.795	7.69- 7.89	0.00749
4	7.935	7.84- 8.04	0.02264

Aroclor-1232			
Peak	RT	RT WIN	Cal Factor
1	5.767	5.67- 5.87	0.00476
2	7.934	7.83- 8.03	0.01608
3	8.779	8.68- 8.88	0.01883
4	9.903	9.80-10.00	0.00983

Aroclor-1242			
Peak	RT	RT WIN	Cal Factor
1	8.779	8.68- 8.88	0.03153
2	9.485	9.38- 9.58	0.06518
3	10.904	10.80-11.00	0.02886
4	11.346	11.25-11.45	0.02919

Aroclor-1248			
Peak	RT	RT WIN	Cal Factor
1	9.475	9.37- 9.57	0.03895
2	10.444	10.34-10.54	0.03290
3	10.982	10.88-11.08	0.03431
4	11.343	11.24-11.44	0.04457

6G

8082 INITIAL CALIBRATION OF SINGLE POINT PCBs

Lab Name: ANALYTICAL RESOURCES INC Client: JORGENSEN FORGE

ARI Job No.: AMW0 Project: JFOS3

GC Column: ZB35 Instrument ID: ECD7

Calibration Date: 09/30/15

Aroclor-1254			
Peak	RT	RT WIN	Cal Factor
1	11.216	11.12-11.32	0.03999
2	11.313	11.21-11.41	0.01897
3	11.753	11.65-11.85	0.03150
4	11.904	11.80-12.00	0.06224
5	12.684	12.58-12.78	0.04037

Aroclor-1262			
Peak	RT	RT WIN	Cal Factor
1	12.909	12.81-13.01	0.05308
2	13.431	13.33-13.53	0.10909
3	13.658	13.56-13.76	0.21531
4	14.145	14.04-14.24	0.13699
5	14.687	14.59-14.79	0.06737

Aroclor-1268			
Peak	RT	RT WIN	Cal Factor
1	14.092	13.99-14.19	0.22060
2	14.145	14.05-14.25	0.20647
3	14.454	14.35-14.55	0.16601
4	15.033	14.93-15.13	0.44811

7F

PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES INC Client: JORGENSEN FORGE

ARI Job No.: AMW0 Project: JFOS3

GC Column: ZB5 Intrument: ECD7

Init. Calib. Date: 09/30/15

Date Analyzed :10/01/15

Lab Standard ID: AR1248 Time Analyzed :0359

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1248-1	9.40	9.30	9.50	251.0	250.0	0.4
Aroclor-1248-2	9.85	9.75	9.95	250.1	250.0	0.0
Aroclor-1248-3	10.30	10.20	10.40	250.7	250.0	0.3
Aroclor-1248-4	10.54	10.44	10.64	250.9	250.0	0.3

AROCLOR AVG: 250.7 CAL %D = 0.3

FORM VII PCB

7F

PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES INC Client: JORGENSEN FORGE

ARI Job No.: AMW0 Project: JFOS3

GC Column: ZB5 Intrument: ECD7

Init. Calib. Date: 09/30/15

Date Analyzed :10/01/15

Lab Standard ID: AR1660 Time Analyzed :0421

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1016-1	8.28	8.18	8.38	241.0	250.0	-3.6
Aroclor-1016-2	8.76	8.67	8.87	241.2	250.0	-3.5
Aroclor-1016-3	9.06	8.97	9.17	247.0	250.0	-1.2
Aroclor-1016-4	9.85	9.75	9.95	242.8	250.0	-2.9

AROCLOR AVG: 243.0 CAL %D = -2.8

Date Analyzed :10/01/15

Lab Standard ID: AR1660 Time Analyzed :0421

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1260-1	12.40	12.30	12.50	233.1	250.0	-6.8
Aroclor-1260-2	13.08	12.98	13.18	240.2	250.0	-3.9
Aroclor-1260-3	13.45	13.35	13.55	238.0	250.0	-4.8
Aroclor-1260-4	13.55	13.45	13.65	234.6	250.0	-6.1
Aroclor-1260-5	13.96	13.86	14.06	231.9	250.0	-7.2

AROCLOR AVG: 235.6 CAL %D = -5.8

7F

PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES INC Client: JORGENSEN FORGE

ARI Job No.: AMW0 Project: JFOS3

GC Column: ZB5 Intrument: ECD7

Init. Calib. Date: 09/30/15

Date Analyzed :10/01/15

Lab Standard ID: AR1242 Time Analyzed :0940

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1242-1	8.77	8.67	8.87	250.1	250.0	0.0
Aroclor-1242-2	9.07	8.97	9.17	249.7	250.0	-0.1
Aroclor-1242-3	10.30	10.20	10.40	249.0	250.0	-0.4
Aroclor-1242-4	10.55	10.45	10.65	249.9	250.0	-0.0

AROCLOR AVG: 249.7 CAL %D = -0.1

7F

PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES INC Client: JORGENSEN FORGE

ARI Job No.: AMW0 Project: JFOS3

GC Column: ZB5 Intrument: ECD7

Init. Calib. Date: 09/30/15

Date Analyzed :10/01/15

Lab Standard ID: AR1660 Time Analyzed :1001

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1016-1	8.28	8.18	8.38	241.7	250.0	-3.3
Aroclor-1016-2	8.77	8.67	8.87	241.7	250.0	-3.3
Aroclor-1016-3	9.07	8.97	9.17	247.1	250.0	-1.2
Aroclor-1016-4	9.85	9.75	9.95	242.5	250.0	-3.0

AROCLOR AVG: 243.3 CAL %D = -2.7

Date Analyzed :10/01/15

Lab Standard ID: AR1660 Time Analyzed :1001

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1260-1	12.40	12.30	12.50	243.9	250.0	-2.4
Aroclor-1260-2	13.08	12.98	13.18	249.2	250.0	-0.3
Aroclor-1260-3	13.45	13.35	13.55	248.0	250.0	-0.8
Aroclor-1260-4	13.55	13.45	13.65	243.2	250.0	-2.7
Aroclor-1260-5	13.96	13.86	14.06	238.4	250.0	-4.6

AROCLOR AVG: 244.6 CAL %D = -2.2

7F

PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES INC Client: JORGENSEN FORGE

ARI Job No.: AMW0 Project: JFOS3

GC Column: ZB35 Intrument: ECD7

Init. Calib. Date: 09/30/15

Date Analyzed :10/01/15

Lab Standard ID: AR1248 Time Analyzed :0359

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1248-1	9.47	9.37	9.57	251.5	250.0	0.6
Aroclor-1248-2	10.44	10.34	10.54	249.7	250.0	-0.1
Aroclor-1248-3	10.98	10.88	11.08	250.4	250.0	0.1
Aroclor-1248-4	11.34	11.24	11.44	249.5	250.0	-0.2

AROCLOR AVG: 250.3 CAL %D = 0.1

FORM VII PCB

7F

PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES INC Client: JORGENSEN FORGE

ARI Job No.: AMW0 Project: JFOS3

GC Column: ZB35 Intrument: ECD7

Init. Calib. Date: 09/30/15

Date Analyzed :10/01/15

Lab Standard ID: AR1660 Time Analyzed :0421

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1016-1	8.78	8.68	8.88	232.4	250.0	-7.0
Aroclor-1016-2	9.48	9.39	9.59	234.6	250.0	-6.2
Aroclor-1016-3	9.90	9.80	10.00	238.6	250.0	-4.6
Aroclor-1016-4	10.44	10.35	10.55	233.9	250.0	-6.4

AROCLOR AVG: 234.9 CAL %D = -6.0

Date Analyzed :10/01/15

Lab Standard ID: AR1660 Time Analyzed :0421

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1260-1	12.91	12.81	13.01	219.0	250.0	-12.4
Aroclor-1260-2	13.66	13.56	13.76	232.5	250.0	-7.0
Aroclor-1260-3	14.09	13.99	14.19	227.0	250.0	-9.2
Aroclor-1260-4	14.14	14.04	14.24	233.5	250.0	-6.6

AROCLOR AVG: 228.0 CAL %D = -8.8

7F

PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES INC Client: JORGENSEN FORGE

ARI Job No.: AMW0 Project: JFOS3

GC Column: ZB35 Intrument: ECD7

Init. Calib. Date: 09/30/15

Date Analyzed :10/01/15

Lab Standard ID: AR1242 Time Analyzed :0940

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1242-1	8.78	8.68	8.88	250.0	250.0	-0.0
Aroclor-1242-2	9.48	9.38	9.58	249.8	250.0	-0.1
Aroclor-1242-3	10.90	10.80	11.00	242.4	250.0	-3.0
Aroclor-1242-4	11.35	11.25	11.45	242.8	250.0	-2.9

AROCLOR AVG: 246.2 CAL %D = -1.5

7F

PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES INC Client: JORGENSEN FORGE

ARI Job No.: AMW0 Project: JFOS3

GC Column: ZB35 Intrument: ECD7

Init. Calib. Date: 09/30/15

Date Analyzed :10/01/15

Lab Standard ID: AR1660 Time Analyzed :1001

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1016-1	8.78	8.68	8.88	233.4	250.0	-6.6
Aroclor-1016-2	9.49	9.39	9.59	235.9	250.0	-5.6
Aroclor-1016-3	9.90	9.80	10.00	239.3	250.0	-4.3
Aroclor-1016-4	10.45	10.35	10.55	226.6	250.0	-9.4

AROCLOR AVG: 233.8 CAL %D = -6.5

Date Analyzed :10/01/15

Lab Standard ID: AR1660 Time Analyzed :1001

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1260-1	12.91	12.81	13.01	235.2	250.0	-5.9
Aroclor-1260-2	13.66	13.56	13.76	244.1	250.0	-2.4
Aroclor-1260-3	14.09	13.99	14.19	236.7	250.0	-5.3
Aroclor-1260-4	14.14	14.04	14.24	242.4	250.0	-3.0

AROCLOR AVG: 239.6 CAL %D = -4.2

FORM VII PCB

FORM 8
PCB INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ANALYTICAL RESOURCES INC Client: JORGENSEN FORGE

ARI Job No.: AMW0 Project: JFOS3

GC Column: ZB5 ID: 0.53(mm) Instrument ID: ECD7

Init. Calib. Date: 09/30/15

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS, SAMPLES, AND STANDARDS IS GIVEN BELOW:

		IS1 AREA	RT	IS2 AREA	RT
	ICAL MIDPT	8066556	3.285	5454994	15.095
	UPPER LIMIT	16133112	3.385	10909988	15.195
	LOWER LIMIT	4033278	3.185	2727497	14.995

	CLIENT SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED	TIME	IS1 AREA	RT	IS2 AREA	RT
01	ZZZZZ	ZZZZZ	09/30/15	1639	8156160	3.285	5568951	15.096
02		0.25PPMAR166	09/30/15	1700	8066556	3.285	5454994	15.095
03		0.02PPMAR166	09/30/15	1721	8091336	3.284	5600526	15.095
04		0.05PPMAR166	09/30/15	1742	7913459	3.284	5577369	15.095
05		1PPMAR1660	09/30/15	1804	7875770	3.284	5564302	15.095
06		0.1PPMAR1660	09/30/15	1825	8219827	3.283	5857219	15.095
07		0.5PPMAR1660	09/30/15	1846	8005014	3.282	5619457	15.095
08		AR1242	09/30/15	1908	8062646	3.284	5758938	15.095
09		AR1248	09/30/15	1929	8072160	3.285	5743651	15.095
10		AR1254	09/30/15	1950	8169016	3.284	5868403	15.095
11		AR2162	09/30/15	2012	8215009	3.282	5905238	15.094
12		AR3268	09/30/15	2033	8262439	3.282	5888824	15.094
13	ZZZZZ	ZZZZZ	09/30/15	2054	7975276	3.281	5736817	15.094
14	ZZZZZ	ZZZZZ	09/30/15	2115	8130853	3.278	5928831	15.094
15	ZZZZZ	ZZZZZ	09/30/15	2137	7961470	3.279	5833507	15.094
16	ZZZZZ	ZZZZZ	09/30/15	2158	8188078	3.281	5977419	15.094
17	ZZZZZ	ZZZZZ	09/30/15	2219	7988538	3.280	5855523	15.094
18	ZZZZZ	ZZZZZ	09/30/15	2240	8082296	3.280	5892233	15.094
19		AR1248	10/01/15	0359	8285443	3.279	6050695	15.094
20		AR1660	10/01/15	0421	8369053	3.279	6077631	15.094
21	AMW0MBS1	AMW0MBS1	10/01/15	0524	8345373	3.281	6226161	15.094
22	AMW0LCSS1	AMW0LCSS1	10/01/15	0546	8564689	3.279	6272345	15.093
23	JFOS3-PC09+1	AMW0A	10/01/15	0607	8737335	3.280	6479989	15.094
24	JFOS3-PC10+1	AMW0B	10/01/15	0628	8954880	3.282	6611636	15.093
25		AR1242	10/01/15	0940	8185709	3.282	5680381	15.094
26		AR1660	10/01/15	1001	8328096	3.286	5722575	15.094

IS1 = 1-Bromo-2-Nitrobenzene RT Window = RT +/- 0.1 min
IS2 = Hexabromobiphenyl

* Indicates value outside QC Limits

FORM 8
PCB INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ANALYTICAL RESOURCES INC Client: JORGENSEN FORGE

ARI Job No.: AMW0 Project: JFOS3

GC Column: ZB35 ID: 0.53(mm) Instrument ID: ECD7

Init. Calib. Date: 09/30/15

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS, SAMPLES, AND STANDARDS IS GIVEN BELOW:

		IS1 AREA	RT	IS2 AREA	RT
	ICAL MIDPT	13586362	4.397	6512961	15.906
	UPPER LIMIT	27172724	4.497	13025922	16.006
	LOWER LIMIT	6793181	4.297	3256480	15.806

	CLIENT SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED	TIME	IS1 AREA	RT	IS2 AREA	RT
01	ZZZZZ	ZZZZZ	09/30/15	1639	13723894	4.396	6632024	15.907
02		0.25PPMAR166	09/30/15	1700	13586362	4.397	6512961	15.906
03		0.02PPMAR166	09/30/15	1721	13532075	4.395	6625253	15.907
04		0.05PPMAR166	09/30/15	1742	13332298	4.396	6594047	15.906
05		1PPMAR1660	09/30/15	1804	13337715	4.397	6622148	15.906
06		0.1PPMAR1660	09/30/15	1825	13929861	4.395	6974857	15.907
07		0.5PPMAR1660	09/30/15	1846	13624637	4.395	6729270	15.907
08		AR1242	09/30/15	1908	13648234	4.396	6860812	15.906
09		AR1248	09/30/15	1929	13676949	4.397	6835392	15.907
10		AR1254	09/30/15	1950	13737253	4.395	6972452	15.906
11		AR2162	09/30/15	2012	13635771	4.395	6981224	15.906
12		AR3268	09/30/15	2033	13710660	4.394	6956825	15.906
13	ZZZZZ	ZZZZZ	09/30/15	2054	13350323	4.394	6821654	15.905
14	ZZZZZ	ZZZZZ	09/30/15	2115	13598897	4.391	6969140	15.906
15	ZZZZZ	ZZZZZ	09/30/15	2137	13344503	4.392	6865704	15.906
16	ZZZZZ	ZZZZZ	09/30/15	2158	13682152	4.392	7087472	15.905
17	ZZZZZ	ZZZZZ	09/30/15	2219	13312259	4.392	6942012	15.905
18	ZZZZZ	ZZZZZ	09/30/15	2240	13480625	4.393	7000012	15.905
19		AR1248	10/01/15	0359	13926088	4.390	7290537	15.905
20		AR1660	10/01/15	0421	14069800	4.391	7343472	15.905
21	AMW0MBS1	AMW0MBS1	10/01/15	0524	13912938	4.393	7368027	15.905
22	AMW0LCSS1	AMW0LCSS1	10/01/15	0546	14338298	4.390	7607579	15.905
23	JFOS3-PC09+1	AMW0A	10/01/15	0607	14511026	4.392	7805302	15.904
24	JFOS3-PC10+1	AMW0B	10/01/15	0628	14852168	4.394	8001061	15.906
25		AR1242	10/01/15	0940	13862531	4.395	6280034	15.907
26		AR1660	10/01/15	1001	14088602	4.398	6332588	15.905

IS1 = 1-Bromo-2-Nitrobenzene RT Window = RT +/- 0.1 min
IS2 = Hexabromobiphenyl

* Indicates value outside QC Limits

Analytical Resources, Inc. Report No. ANA4

Analytical Resources, Incorporated
Analytical Chemists and Consultants

6 October 2015

Dee Gardner
Sound Earth Strategies, Inc.
2811 Fairview Avenue East, Suite 2000
Seattle, WA 98102

RE: JFOS3
ARI Job No.: ANA4

Dear Dee:

Please find enclosed the original chain of custody record and the final results for the sample from the project referenced above. Analytical Resources, Inc. received one soil sample on September 23, 2015. The sample was analyzed for PCBs as requested.

This analysis proceeded without incident of note.

If you have any questions regarding these results, please feel free to contact me at your convenience.

Sincerely,

ANALYTICAL RESOURCES, INC.

Mark D. Harris
Project Manager
206/695-6210
markh@arilabs.com

cc: Miles Dyer, Jorgensen Forge
file ANA4

Enclosures

4611 South 134th Place, Suite 100 • Tukwila WA 98168 • **206-695-6200** • **206-695-6201** fax

Chain of Custody Record & Laboratory Analysis Request

ARI Assigned Number: AMA4	Turn-around Requested: STANDARD	Page: 1 of 1	
ARI Client Company: JORGENSEN FORGE CORP.	Phone: 206.762.110	Date: 9/23/15	Ice Present?
Client Contact: MILES DYER		No. of Coolers:	Cooler Temps:
Client Project Name: JFOS 3			
Client Project #:	Samplers: J. LOEFFLER		

Analytical Resources, Incorporated
Analytical Chemists and Consultants
4611 South 134th Place, Suite 100
Tukwila, WA 98168
206-695-6200 206-695-6201 (fax)
www.arilabs.com

Sample ID	Date	Time	Matrix	No. Containers	Analysis Requested: PCBs by EPA 8082	Notes/Comments
JFOS3-PC11+15	9/23/15	0837	SOIL	1	X	STAGE 2B REPORTING PER SAP/QAPP

9/23/15

Comments/Special Instructions	Relinquished by: (Signature)	Received by: (Signature)	Relinquished by: (Signature)	Received by: (Signature)
CC: DEE GARDNER AND JONATHAN LOEFFLER AT SOUNDEARTH dgardner@soundearthinc.com jloeffler@soundearthinc.com	Printed Name: JONATHAN LOEFFLER	Printed Name: Emily Irwin	Printed Name:	Printed Name:
	Company: SOUNDEARTH	Company: ARI	Company:	Company:
	Date & Time: 9/23/15 @ 1027	Date & Time: 9/23/15 1027	Date & Time:	Date & Time:

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Cooler Receipt Form

ARI Client: Jorgensen Forge Project Name: JFOS3

COC No(s): _____ NA Delivered by: Fed-Ex UPS Courier Hand Delivered Other: _____

Assigned ARI Job No: ANA4 Tracking No: _____ NA

Preliminary Examination Phase:

Were intact, properly signed and dated custody seals attached to the outside of to cooler?	YES	NO
Were custody papers included with the cooler?	YES	NO
Were custody papers properly filled out (ink, signed, etc.)	YES	NO

Temperature of Cooler(s) (°C) (recommended 2.0-6.0 °C for chemistry) 5.2
Time: _____

If cooler temperature is out of compliance fill out form 00070F Temp Gun ID#: DOO2605

Cooler Accepted by: _____ Date: 9/23/15 Time: 1027

Complete custody forms and attach all shipping documents

Log-In Phase:

Was a temperature blank included in the cooler?		YES	NO
What kind of packing material was used? ... Bubble Wrap Wet Ice Gel Packs Baggies Foam Block Paper Other: _____			
Was sufficient ice used (if appropriate)?	NA	YES	NO
Were all bottles sealed in individual plastic bags?		YES	NO
Did all bottles arrive in good condition (unbroken)?		YES	NO
Were all bottle labels complete and legible?		YES	NO
Did the number of containers listed on COC match with the number of containers received?		YES	NO
Did all bottle labels and tags agree with custody papers?		YES	NO
Were all bottles used correct for the requested analyses?		YES	NO
Do any of the analyses (bottles) require preservation? (attach preservation sheet, excluding VOCs)...	NA	YES	NO
Were all VOC vials free of air bubbles?	NA	YES	NO
Was sufficient amount of sample sent in each bottle?		YES	NO
Date VOC Trip Blank was made at ARI	NA		

Was Sample Split by ARI : NA YES Date/Time: _____ Equipment: _____ Split by: _____

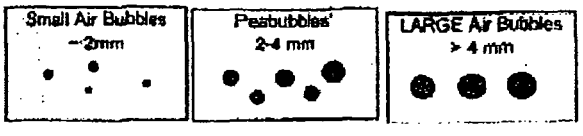
Samples Logged by: _____ Date: 9/23/15 Time: 1328

*** Notify Project Manager of discrepancies or concerns ***

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Additional Notes, Discrepancies, & Resolutions:

By: Date:



Small → "sm" (< 2 mm)
Peabubbles → "pb" (2 to < 4 mm)
Large → "lg" (4 to < 6 mm)
Headspace → "hs" (> 6 mm)

Sample ID Cross Reference Report

ANALYTICAL RESOURCES INCORPORATED

ARI Job No: ANA4
Client: Jorgensen Forge
Project Event: N/A
Project Name: JFOS3

	Sample ID	ARI Lab ID	ARI LIMS ID	Matrix	Sample Date/Time	VTSR
1.	JFOS3-PC11+15	ANA4A	15-17007	Soil	09/23/15 08:37	09/23/15 10:27

Analytical Resources,
Incorporated
Analytical Chemists and
Consultants

Data Reporting Qualifiers

Effective 12/31/13

Inorganic Data

U	Indicates that the target analyte was not detected at the reported concentration
*	Duplicate RPD is not within established control limits
B	Reported value is less than the CRDL but ≥ the Reporting Limit
N	Matrix Spike recovery not within established control limits
NA	Not Applicable, analyte not spiked
H	The natural concentration of the spiked element is so much greater than the concentration spiked that an accurate determination of spike recovery is not possible
L	Analyte concentration is ≤5 times the Reporting Limit and the replicate control limit defaults to ±1 RL instead of the normal 20% RPD

Organic Data

U	Indicates that the target analyte was not detected at the reported concentration
*	Flagged value is not within established control limits
B	Analyte detected in an associated Method Blank at a concentration greater than one-half of ARI's Reporting Limit or 5% of the regulatory limit or 5% of the analyte concentration in the sample.
J	Estimated concentration when the value is less than ARI's established reporting limits
D	The spiked compound was not detected due to sample extract dilution
E	Estimated concentration calculated for an analyte response above the valid instrument calibration range. A dilution is required to obtain an accurate quantification of the analyte.

Q	Indicates a detected analyte with an initial or continuing calibration that does not meet established acceptance criteria (<20%RSD, <20%Drift or minimum RRF).
S	Indicates an analyte response that has saturated the detector. The calculated concentration is not valid; a dilution is required to obtain valid quantification of the analyte
NA	The flagged analyte was not analyzed for
NR	Spiked compound recovery is not reported due to chromatographic interference
NS	The flagged analyte was not spiked into the sample
M	Estimated value for an analyte detected and confirmed by an analyst but with low spectral match parameters. This flag is used only for GC-MS analyses
N	The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification"
Y	The analyte is not detected at or above the reported concentration. The reporting limit is raised due to chromatographic interference. The Y flag is equivalent to the U flag with a raised reporting limit.
EMPC	Estimated Maximum Possible Concentration (EMPC) defined in EPA Statement of Work DLM02.2 as a value "calculated for 2,3,7,8-substituted isomers for which the quantitation and /or confirmation ion(s) has signal to noise in excess of 2.5, but does not meet identification criteria" **(Dioxin/Furan analysis only)**
C	The analyte was positively identified on only one of two chromatographic columns. Chromatographic interference prevented a positive identification on the second column
P	The analyte was detected on both chromatographic columns but the quantified values differ by ≥40% RPD with no obvious chromatographic interference
X	Analyte signal includes interference from polychlorinated diphenyl ethers. **(Dioxin/Furan analysis only)**
Z	Analyte signal includes interference from the sample matrix or perfluorokerosene ions. **(Dioxin/Furan analysis only)**

Geotechnical Data

A	The total of all fines fractions. This flag is used to report total fines when only sieve analysis is requested and balances total grain size with sample weight.
F	Samples were frozen prior to particle size determination
SM	Sample matrix was not appropriate for the requested analysis. This normally refers to samples contaminated with an organic product that interferes with the sieving process and/or moisture content, porosity and saturation calculations
SS	Sample did not contain the proportion of "fines" required to perform the pipette portion of the grain size analysis
W	Weight of sample in some pipette aliquots was below the level required for accurate weighting

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082A
Extraction Method: SW3546
Page 1 of 1

Sample ID: JFOS3-PC11+15
SAMPLE

Lab Sample ID: ANA4A
LIMS ID: 15-17007
Matrix: Soil
Data Release Authorized:
Reported: 10/05/15

QC Report No: ANA4-Jorgensen Forge
Project: JFOS3

Date Sampled: 09/23/15
Date Received: 09/23/15

Date Extracted: 09/26/15
Date Analyzed: 09/30/15 05:57
Instrument/Analyst: ECD7/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes
Florisil Cleanup: No

Sample Amount: 5.80 g-dry-wt
Final Extract Volume: 5.00 mL
Dilution Factor: 1.00
Silica Gel: No

Percent Moisture: 3.8%

CAS Number	Analyte	LOQ	Result
12674-11-2	Aroclor 1016	17	< 17 U
53469-21-9	Aroclor 1242	17	< 17 U
12672-29-6	Aroclor 1248	17	< 17 U
11097-69-1	Aroclor 1254	17	< 17 U
11096-82-5	Aroclor 1260	17	< 17 U
11104-28-2	Aroclor 1221	17	< 17 U
11141-16-5	Aroclor 1232	17	< 17 U
37324-23-5	Aroclor 1262	17	< 17 U
11100-14-4	Aroclor 1268	17	< 17 U

Reported in µg/kg (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	93.8%
Tetrachlorometaxylene	78.5%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082A
Extraction Method: SW3546
Page 1 of 1

Sample ID: MB-092615
METHOD BLANK

Lab Sample ID: MB-092615
LIMS ID: 15-17007
Matrix: Soil
Data Release Authorized:
Reported: 10/05/15

QC Report No: ANA4-Jorgensen Forge
Project: JFOS3

Date Sampled: NA
Date Received: NA

Date Extracted: 09/26/15
Date Analyzed: 09/30/15 05:14
Instrument/Analyst: ECD7/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes
Florisil Cleanup: No

Sample Amount: 5.00 g
Final Extract Volume: 5.00 mL
Dilution Factor: 1.00
Silica Gel: No

Percent Moisture: NA

CAS Number	Analyte	LOQ	Result
12674-11-2	Aroclor 1016	20	< 20 U
53469-21-9	Aroclor 1242	20	< 20 U
12672-29-6	Aroclor 1248	20	< 20 U
11097-69-1	Aroclor 1254	20	< 20 U
11096-82-5	Aroclor 1260	20	< 20 U
11104-28-2	Aroclor 1221	20	< 20 U
11141-16-5	Aroclor 1232	20	< 20 U
37324-23-5	Aroclor 1262	20	< 20 U
11100-14-4	Aroclor 1268	20	< 20 U

Reported in µg/kg (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	97.5%
Tetrachlorometaxylene	80.2%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082A
Page 1 of 1

Sample ID: LCS-092615
LAB CONTROL

Lab Sample ID: LCS-092615
LIMS ID: 15-17007
Matrix: Soil
Data Release Authorized:
Reported: 10/05/15

QC Report No: ANA4-Jorgensen Forge
Project: JFOS3

Date Sampled: NA
Date Received: NA

Date Extracted: 09/26/15
Date Analyzed: 09/30/15 05:35
Instrument/Analyst: ECD7/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes
Florisil Cleanup: No

Sample Amount: 5.00 g-dry-wt
Final Extract Volume: 5.00 mL
Dilution Factor: 1.00
Silica Gel: No

Percent Moisture: NA

Analyte	Lab Control	Spike Added	Recovery
Aroclor 1016	432	500	86.4%
Aroclor 1260	485	500	97.0%

PCB Surrogate Recovery

Decachlorobiphenyl	100%
Tetrachlorometaxylene	80.5%

Results reported in µg/kg (ppb)

ANALYTICAL RESOURCES INCORPORATED

SW8082/PCB SOIL/SOLID/SEDIMENT SURROGATE RECOVERY SUMMARY

Matrix: Soil

QC Report No: ANA4-Jorgensen Forge
Project: JFOS3

Client ID	DCBP % REC	DCBP LCL-UCL	TCMX % REC	TCMX LCL-UCL	TOT OUT
MB-092615	97.5%	59-115	80.2%	58-112	0
LCS-092615	100%	59-115	80.5%	58-112	0
JFOS3-PC11+15	93.8%	47-120	78.5%	53-116	0

Microwave (MARS) Control Limits PCBSMI
Prep Method: SW3546
Log Number Range: 15-17007 to 15-17007

4

PCB METHOD BLANK SUMMARY

BLANK NO.

ANA4MBS1

Lab Name: ANALYTICAL RESOURCES INC

Client: JORGENSEN FORGE

ARI Job No.: ANA4

Project: JFOS3

Lab Sample ID: ANA4MBS1

Lab File ID: 09291555

Date Extracted: 09/26/15

Matrix: SOLID

Date Analyzed: 09/30/15

Instrument ID: ECD7

Time Analyzed: 0514

GC Columns: ZB5/ZB35

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS and MSD:

	CLIENT SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED
01	ANA4LCSS1	ANA4LCSS1	09/30/15
02	JFOS3-PC11+15	ANA4A	09/30/15

ALL RUNS ARE DUAL COLUMN

6F

8082 INITIAL CALIBRATION OF AROCLOR 1016/1260

Lab Name: ANALYTICAL RESOURCES INC Client: JORGENSEN FORGE

ARI Job No.: ANA4 Project: JFOS3

GC Column: ZB5 Instrument ID: ECD7

Calibration Date: 08/03/15

SURROGATES

	RT WIN	LVL1	LVL2	LVL3	LVL4	LVL5	LVL6	MEAN	%RSD
TCX	6.18- 6.38	0.4595	0.5114	0.5438	0.5434	0.5583	0.5704	0.5312	7.6
DCB	14.74-14.94	1.7111	1.7198	1.4821	1.4035	1.2882	1.3482	1.4921	12.4

Aroclor-1016 Peak	RT WIN	LVL1 .02	LVL2 0.05	LVL3 0.1	LVL4 .25	LVL5 0.5	LVL6 1.0	MEAN	%RSD R^2
1	8.18- 8.38	0.0127	0.0137	0.0140	0.0130	0.0125	0.0119	0.0129	6.0
2	8.67- 8.87	0.0388	0.0418	0.0425	0.0396	0.0390	0.0384	0.0400	4.3
3	8.97- 9.17	0.0123	0.0144	0.0149	0.0140	0.0138	0.0134	0.0138	6.5
4	9.75- 9.95	0.0139	0.0149	0.0160	0.0148	0.0146	0.0141	0.0147	4.9

AROCLOR AVERAGE %RSD = 5.4

Aroclor-1260 Peak	RT WIN	LVL1 .02	LVL2 0.05	LVL3 0.1	LVL4 .25	LVL5 0.5	LVL6 1.0	MEAN	%RSD R^2
1	12.31-12.51	0.0491	0.0528	0.0511	0.0511	0.0472	0.0497	0.0502	3.9
2	12.98-13.18	0.1300	0.1509	0.1533	0.1635	0.1585	0.1747	0.1551	9.6
3	13.36-13.56	0.0548	0.0622	0.0625	0.0650	0.0614	0.0659	0.0620	6.4
4	13.46-13.66	0.0356	0.0404	0.0408	0.0424	0.0400	0.0425	0.0403	6.3
5	13.86-14.06	0.0162	0.0197	0.0199	0.0205	0.0194	0.0207	0.0194	8.4

AROCLOR AVERAGE %RSD = 6.9

6F

8082 INITIAL CALIBRATION OF AROCLOR 1016/1260

Lab Name: ANALYTICAL RESOURCES INC Client: JORGENSEN FORGE

ARI Job No.: ANA4 Project: JFOS3

GC Column: ZB35 Instrument ID: ECD7

Calibration Date: 08/03/15

SURROGATES

	RT WIN	LVL1	LVL2	LVL3	LVL4	LVL5	LVL6	MEAN	%RSD
TCX	6.56- 6.76	0.9749	1.0337	1.0794	1.0345	1.0222	0.9958	1.0234	3.5
DCB	15.22-15.42	1.1059	1.0972	1.1143	1.0244	1.0035	0.9886	1.0556	5.3

Aroclor-1016 Peak	RT WIN	LVL1 .02	LVL2 0.05	LVL3 0.1	LVL4 .25	LVL5 0.5	LVL6 1.0	MEAN	%RSD R^2
1	8.68- 8.88	0.0481	0.0478	0.0466	0.0414	0.0386	0.0357	0.0430	12.2
2	9.39- 9.59	0.0957	0.0955	0.0955	0.0864	0.0833	0.0792	0.0893	8.2
3	9.81-10.01	0.0250	0.0256	0.0255	0.0230	0.0217	0.0205	0.0236	9.1
4	10.35-10.55	0.0339	0.0347	0.0339	0.0302	0.0285	0.0267	0.0313	10.5

AROCLOR AVERAGE %RSD = 10.0

Aroclor-1260 Peak	RT WIN	LVL1 .02	LVL2 0.05	LVL3 0.1	LVL4 .25	LVL5 0.5	LVL6 1.0	MEAN	%RSD R^2
1	12.81-13.01	0.0940	0.0922	0.0897	0.0799	0.0745	0.0713	0.0836	11.5
2	13.56-13.76	0.1992	0.2005	0.1998	0.1867	0.1792	0.1768	0.1904	5.7
3	13.99-14.19	0.0651	0.0649	0.0637	0.0574	0.0536	0.0519	0.0594	10.0
4	14.05-14.25	0.1332	0.1340	0.1333	0.1212	0.1155	0.1129	0.1250	7.7

AROCLOR AVERAGE %RSD = 8.7

6G

8082 INITIAL CALIBRATION OF SINGLE POINT PCBs

Lab Name: ANALYTICAL RESOURCES INC Client: JORGENSEN FORGE

ARI Job No.: ANA4 Project: JFOS3

GC Column: ZB5 Instrument ID: ECD7

Calibration Date: 08/03/15

Aroclor-1221			
Peak	RT	RT WIN	Cal Factor
1	4.946	4.85- 5.05	0.00300
2	6.923	6.82- 7.02	0.00486
3	7.047	6.95- 7.15	0.01455

Aroclor-1232			
Peak	RT	RT WIN	Cal Factor
1	4.946	4.85- 5.05	0.00172
2	7.046	6.95- 7.15	0.00980
3	8.759	8.66- 8.86	0.01696
4	9.658	9.56- 9.76	0.00541

Aroclor-1242			
Peak	RT	RT WIN	Cal Factor
1	8.765	8.67- 8.87	0.03076
2	9.063	8.96- 9.16	0.01109
3	10.298	10.20-10.40	0.01405
4	10.544	10.44-10.64	0.01578

Aroclor-1248			
Peak	RT	RT WIN	Cal Factor
1	9.409	9.31- 9.51	0.00882
2	9.852	9.75- 9.95	0.02086
3	10.301	10.20-10.40	0.02446
4	10.546	10.45-10.65	0.02496

6G

8082 INITIAL CALIBRATION OF SINGLE POINT PCBs

Lab Name: ANALYTICAL RESOURCES INC Client: JORGENSEN FORGE

ARI Job No.: ANA4 Project: JFOS3

GC Column: ZB5 Instrument ID: ECD7

Calibration Date: 08/03/15

Aroclor-1254			
Peak	RT	RT WIN	Cal Factor
1	10.306	10.21-10.41	0.01523
2	10.627	10.53-10.73	0.02246
3	11.007	10.91-11.11	0.01795
4	11.145	11.05-11.25	0.03393
5	11.859	11.76-11.96	0.02473

Aroclor-1262			
Peak	RT	RT WIN	Cal Factor
1	12.408	12.31-12.51	0.10383
2	13.085	12.99-13.19	0.27054
3	13.461	13.36-13.56	0.07188
4	13.625	13.52-13.72	0.12224
5	14.171	14.07-14.27	0.10332

Aroclor-1268			
Peak	RT	RT WIN	Cal Factor
1	13.561	13.46-13.66	0.24308
2	13.623	13.52-13.72	0.23035
3	13.949	13.85-14.05	0.20684
4	14.555	14.46-14.66	0.63060

6G

8082 INITIAL CALIBRATION OF SINGLE POINT PCBs

Lab Name: ANALYTICAL RESOURCES INC Client: JORGENSEN FORGE

ARI Job No.: ANA4 Project: JFOS3

GC Column: ZB35 Instrument ID: ECD7

Calibration Date: 08/03/15

Aroclor-1221			
Peak	RT	RT WIN	Cal Factor
1	1.000	0.90- 1.10	0.00821
2	7.507	7.41- 7.61	0.01368
3	7.793	7.69- 7.89	0.00799
4	7.933	7.83- 8.03	0.02412

Aroclor-1232			
Peak	RT	RT WIN	Cal Factor
1	1.000	0.90- 1.10	0.00506
2	7.933	7.83- 8.03	0.01726
3	8.774	8.67- 8.87	0.01985
4	9.902	9.80-10.00	0.01037

Aroclor-1242			
Peak	RT	RT WIN	Cal Factor
1	8.774	8.67- 8.87	0.03253
2	9.476	9.38- 9.58	0.06762
3	10.903	10.80-11.00	0.02930
4	11.343	11.24-11.44	0.02943

Aroclor-1248			
Peak	RT	RT WIN	Cal Factor
1	9.476	9.38- 9.58	0.04417
2	10.447	10.35-10.55	0.03719
3	10.983	10.88-11.08	0.03822
4	11.343	11.24-11.44	0.04818

6G

8082 INITIAL CALIBRATION OF SINGLE POINT PCBs

Lab Name: ANALYTICAL RESOURCES INC Client: JORGENSEN FORGE

ARI Job No.: ANA4 Project: JFOS3

GC Column: ZB35 Instrument ID: ECD7

Calibration Date: 08/03/15

Aroclor-1254			
Peak	RT	RT WIN	Cal Factor
1	11.220	11.12-11.32	0.04173
2	11.318	11.22-11.42	0.01974
3	11.756	11.66-11.86	0.03299
4	11.908	11.81-12.01	0.06503
5	12.687	12.59-12.79	0.04305

Aroclor-1262			
Peak	RT	RT WIN	Cal Factor
1	12.948	12.85-13.05	0.15518
2	13.432	13.33-13.53	0.14324
3	13.659	13.56-13.76	0.29125
4	14.144	14.04-14.24	0.12507
5	14.686	14.59-14.79	0.09594

Aroclor-1268			
Peak	RT	RT WIN	Cal Factor
1	14.144	14.04-14.24	0.21797
2	1.000	0.90- 1.10	0.20396
3	1.000	0.90- 1.10	0.16487
4	15.027	14.93-15.13	0.46628

7F

PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES INC Client: JORGENSEN FORGE

ARI Job No.: ANA4 Project: JFOS3

GC Column: ZB5 Intrument: ECD7

Init. Calib. Date: 08/03/15

Date Analyzed :09/30/15

Lab Standard ID: AR1254 Time Analyzed :0432

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1254-1	10.31	10.21	10.41	264.7	250.0	5.9
Aroclor-1254-2	10.63	10.53	10.73	271.6	250.0	8.6
Aroclor-1254-3	11.01	10.91	11.11	275.7	250.0	10.3
Aroclor-1254-4	11.15	11.05	11.25	269.8	250.0	7.9
Aroclor-1254-5	11.86	11.76	11.96	266.6	250.0	6.6

AROCLOR AVG: 269.7 CAL %D = 7.9

7F

PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES INC Client: JORGENSEN FORGE

ARI Job No.: ANA4 Project: JFOS3

GC Column: ZB5 Intrument: ECD7

Init. Calib. Date: 08/03/15

Date Analyzed :09/30/15

Lab Standard ID: AR1660 Time Analyzed :0453

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1016-1	8.28	8.18	8.38	254.5	250.0	1.8
Aroclor-1016-2	8.76	8.67	8.87	252.0	250.0	0.8
Aroclor-1016-3	9.06	8.97	9.17	263.0	250.0	5.2
Aroclor-1016-4	9.85	9.75	9.95	275.7	250.0	10.3

AROCLOR AVG: 261.3 CAL %D = 4.5

Date Analyzed :09/30/15

Lab Standard ID: AR1660 Time Analyzed :0453

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1260-1	12.40	12.31	12.51	295.9	250.0	18.4
Aroclor-1260-2	13.08	12.98	13.18	283.5	250.0	13.4
Aroclor-1260-3	13.45	13.36	13.56	277.7	250.0	11.1
Aroclor-1260-4	13.55	13.46	13.66	272.9	250.0	9.2
Aroclor-1260-5	13.96	13.86	14.06	271.8	250.0	8.7

AROCLOR AVG: 280.4 CAL %D = 12.1

7F

PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES INC Client: JORGENSEN FORGE

ARI Job No.: ANA4 Project: JFOS3

GC Column: ZB5 Intrument: ECD7

Init. Calib. Date: 08/03/15

Date Analyzed :09/30/15

Lab Standard ID: AR1248 Time Analyzed :0929

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1248-1	9.41	9.31	9.51	266.1	250.0	6.4
Aroclor-1248-2	9.85	9.75	9.95	268.5	250.0	7.4
Aroclor-1248-3	10.30	10.20	10.40	268.7	250.0	7.5
Aroclor-1248-4	10.55	10.45	10.65	274.8	250.0	9.9

AROCLOR AVG: 269.5 CAL %D = 7.8

FORM VII PCB

7F

PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES INC Client: JORGENSEN FORGE

ARI Job No.: ANA4 Project: JFOS3

GC Column: ZB5 Intrument: ECD7

Init. Calib. Date: 08/03/15

Date Analyzed :09/30/15

Lab Standard ID: AR1660 Time Analyzed :0951

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D	
Aroclor-1016-1	8.28	8.18	8.38	253.3	250.0	1.3	
Aroclor-1016-2	8.77	8.67	8.87	251.6	250.0	0.6	
Aroclor-1016-3	9.07	8.97	9.17	261.9	250.0	4.8	
Aroclor-1016-4	9.85	9.75	9.95	275.0	250.0	10.0	

AROCLOR AVG: 260.4 CAL %D = 4.2

Date Analyzed :09/30/15

Lab Standard ID: AR1660 Time Analyzed :0951

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D	
Aroclor-1260-1	12.41	12.31	12.51	326.6	250.0	30.6	<-
Aroclor-1260-2	13.08	12.98	13.18	301.2	250.0	20.5	
Aroclor-1260-3	13.46	13.36	13.56	292.6	250.0	17.0	
Aroclor-1260-4	13.56	13.46	13.66	286.9	250.0	14.7	
Aroclor-1260-5	13.96	13.86	14.06	282.0	250.0	12.8	

AROCLOR AVG: 297.9 CAL %D = 19.1

7F

PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES INC Client: JORGENSEN FORGE

ARI Job No.: ANA4 Project: JFOS3

GC Column: ZB35 Intrument: ECD7

Init. Calib. Date: 08/03/15

Date Analyzed :09/30/15

Lab Standard ID: AR1254 Time Analyzed :0432

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1254-1	11.22	11.12	11.32	259.5	250.0	3.8
Aroclor-1254-2	11.31	11.22	11.42	267.1	250.0	6.8
Aroclor-1254-3	11.75	11.66	11.86	267.6	250.0	7.0
Aroclor-1254-4	11.90	11.81	12.01	257.3	250.0	2.9
Aroclor-1254-5	12.68	12.59	12.79	255.2	250.0	2.1

AROCLOR AVG: 261.3 CAL %D = 4.5

FORM VII PCB

7F

PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES INC Client: JORGENSEN FORGE

ARI Job No.: ANA4 Project: JFOS3

GC Column: ZB35 Intrument: ECD7

Init. Calib. Date: 08/03/15

Date Analyzed :09/30/15

Lab Standard ID: AR1660 Time Analyzed :0453

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D	
Aroclor-1016-1	8.78	8.68	8.88	236.1	250.0	-5.6	
Aroclor-1016-2	9.48	9.39	9.59	238.7	250.0	-4.5	
Aroclor-1016-3	9.90	9.81	10.01	246.5	250.0	-1.4	
Aroclor-1016-4	10.45	10.35	10.55	193.1	250.0	-22.8	

AROCLOR AVG: 228.6 CAL %D = -8.6

Date Analyzed :09/30/15

Lab Standard ID: AR1660 Time Analyzed :0453

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D	
Aroclor-1260-1	12.91	12.81	13.01	324.7	250.0	29.9	<-
Aroclor-1260-2	13.66	13.56	13.76	258.9	250.0	3.5	
Aroclor-1260-3	14.09	13.99	14.19	265.9	250.0	6.4	
Aroclor-1260-4	14.14	14.05	14.25	256.4	250.0	2.6	

AROCLOR AVG: 276.4 CAL %D = 10.6

7F

PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES INC Client: JORGENSEN FORGE

ARI Job No.: ANA4 Project: JFOS3

GC Column: ZB35 Intrument: ECD7

Init. Calib. Date: 08/03/15

Date Analyzed :09/30/15

Lab Standard ID: AR1248 Time Analyzed :0929

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1248-1	9.48	9.38	9.58	252.7	250.0	1.1
Aroclor-1248-2	10.45	10.35	10.55	218.8	250.0	-12.5
Aroclor-1248-3	10.99	10.88	11.08	249.9	250.0	-0.0
Aroclor-1248-4	11.35	11.24	11.44	258.9	250.0	3.5

AROCLOR AVG: 245.1 CAL %D = -2.0

FORM VII PCB

7F

PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES INC Client: JORGENSEN FORGE

ARI Job No.: ANA4 Project: JFOS3

GC Column: ZB35 Intrument: ECD7

Init. Calib. Date: 08/03/15

Date Analyzed :09/30/15

Lab Standard ID: AR1660 Time Analyzed :0951

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1016-1	8.78	8.68	8.88	237.4	250.0	-5.0
Aroclor-1016-2	9.49	9.39	9.59	240.8	250.0	-3.7
Aroclor-1016-3	9.91	9.81	10.01	248.0	250.0	-0.8
Aroclor-1016-4	10.45	10.35	10.55	195.6	250.0	-21.8

AROCLOR AVG: 230.5 CAL %D = -7.8

Date Analyzed :09/30/15

Lab Standard ID: AR1660 Time Analyzed :0951

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D	
Aroclor-1260-1	12.91	12.81	13.01	375.0	250.0	50.0	<-
Aroclor-1260-2	13.66	13.56	13.76	275.5	250.0	10.2	
Aroclor-1260-3	14.09	13.99	14.19	274.0	250.0	9.6	
Aroclor-1260-4	14.14	14.05	14.25	264.3	250.0	5.7	

AROCLOR AVG: 297.2 CAL %D = 18.9

FORM 8

PCB INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ANALYTICAL RESOURCES INC Client: JORGENSEN FORGE

ARI Job No.: ANA4 Project: JFOS3

GC Column: ZB5 ID: 0.53(mm) Instrument ID: ECD7

Init. Calib. Date: 08/03/15

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS, SAMPLES, AND STANDARDS IS GIVEN BELOW:

		IS1 AREA	RT	IS2 AREA	RT
	ICAL MIDPT	6328212	3.263	5068453	15.102
	UPPER LIMIT	12656424	3.363	10136906	15.202
	LOWER LIMIT	3164106	3.163	2534226	15.002

	CLIENT SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED	TIME	IS1 AREA	RT	IS2 AREA	RT
01	ZZZZZ	ZZZZZ	08/03/15	1716	6222621	3.258	5047030	15.102
02		0.25PPMAR166	08/03/15	1737	6328212	3.263	5068453	15.102
03		0.02PPMAR166	08/03/15	1758	6326177	3.262	5154907	15.102
04		0.05PPMAR166	08/03/15	1820	6210580	3.264	5033371	15.102
05		1PPMAR1660	08/03/15	1841	6160991	3.266	4985647	15.103
06		0.1PPMAR1660	08/03/15	1902	6344317	3.268	5407220	15.103
07		0.5PPMAR1660	08/03/15	1924	6159955	3.267	5303929	15.103
08		AR1242	08/03/15	1945	6219986	3.265	5066767	15.103
09		AR1248	08/03/15	2007	6249050	3.265	5356854	15.103
10		AR1254	08/03/15	2028	6326911	3.267	5032449	15.103
11		AR2162	08/03/15	2049	6246099	3.266	4938617	15.103
12		AR3268	08/03/15	2111	6259531	3.265	5003661	15.103
13	ZZZZZ	ZZZZZ	08/03/15	2132	6338133	3.267	5037306	15.103
14	ZZZZZ	ZZZZZ	08/03/15	2153	6038309	3.262	5048403	15.103
15	ZZZZZ	ZZZZZ	08/03/15	2214	6208035	3.265	5032536	15.103
16	ZZZZZ	ZZZZZ	08/03/15	2236	6278544	3.265	5100405	15.103
17	ZZZZZ	ZZZZZ	08/03/15	2257	6251565	3.264	5061467	15.103
18	ZZZZZ	ZZZZZ	08/03/15	2318	6317415	3.264	5061451	15.102
19		AR1254	09/30/15	0432	8310195	3.278	5894481	15.094
20		AR1660	09/30/15	0453	8404933	3.278	6075148	15.094
21	ANA4MBS1	ANA4MBS1	09/30/15	0514	8589569	3.280	6421435	15.094
22	ANA4LCSS1	ANA4LCSS1	09/30/15	0535	8551626	3.281	6352695	15.095
23	JFOS3-PC11+1	ANA4A	09/30/15	0557	8678958	3.280	6613108	15.094
24		AR1248	09/30/15	0929	8373135	3.285	5533284	15.095
25		AR1660	09/30/15	0951	8532464	3.286	5696459	15.095

IS1 = 1-Bromo-2-Nitrobenzene RT Window = RT +/- 0.1 min

IS2 = Hexabromobiphenyl

* Indicates value outside QC Limits

FORM 8
PCB INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ANALYTICAL RESOURCES INC Client: JORGENSEN FORGE

ARI Job No.: ANA4 Project: JFOS3

GC Column: ZB35 ID: 0.53(mm) Instrument ID: ECD7

Init. Calib. Date: 08/03/15

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS, SAMPLES, AND STANDARDS IS GIVEN BELOW:

		IS1 AREA	RT	IS2 AREA	RT
	ICAL MIDPT	12901249	4.365	7598346	15.906
	UPPER LIMIT	25802498	4.465	15196692	16.006
	LOWER LIMIT	6450624	4.265	3799173	15.806

	CLIENT SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED	TIME	IS1 AREA	RT	IS2 AREA	RT
01	ZZZZZ	ZZZZZ	08/03/15	1716	12615423	4.360	7577981	15.906
02		0.25PPMAR166	08/03/15	1737	12901249	4.365	7598346	15.906
03		0.02PPMAR166	08/03/15	1758	12889538	4.366	7674080	15.906
04		0.05PPMAR166	08/03/15	1820	12701605	4.367	7596138	15.906
05		1PPMAR1660	08/03/15	1841	12722963	4.369	7648810	15.907
06		0.1PPMAR1660	08/03/15	1902	13013744	4.371	7786984	15.907
07		0.5PPMAR1660	08/03/15	1924	12706249	4.370	7776969	15.907
08		AR1242	08/03/15	1945	12825517	4.369	7804063	15.906
09		AR1248	08/03/15	2007	12932061	4.369	7871936	15.906
10		AR1254	08/03/15	2028	13098041	4.370	7793570	15.907
11		AR2162	08/03/15	2049	12808024	4.369	7735916	15.907
12		AR3268	08/03/15	2111	12831845	4.369	7828166	15.907
13	ZZZZZ	ZZZZZ	08/03/15	2132	13048327	4.369	7840797	15.907
14	ZZZZZ	ZZZZZ	08/03/15	2153	12451023	4.366	7728754	15.907
15	ZZZZZ	ZZZZZ	08/03/15	2214	12732082	4.367	7695088	15.907
16	ZZZZZ	ZZZZZ	08/03/15	2236	12892489	4.368	7804248	15.906
17	ZZZZZ	ZZZZZ	08/03/15	2257	12666986	4.367	7848857	15.907
18	ZZZZZ	ZZZZZ	08/03/15	2318	12781896	4.367	7841933	15.907
19		AR1254	09/30/15	0432	13884909	4.390	7368352	15.906
20		AR1660	09/30/15	0453	14140256	4.391	7661890	15.906
21	ANA4MBS1	ANA4MBS1	09/30/15	0514	14242912	4.392	7892618	15.906
22	ANA4LCSS1	ANA4LCSS1	09/30/15	0535	14251099	4.393	7797255	15.906
23	JFOS3-PC11+1	ANA4A	09/30/15	0557	13735682	4.392	7900768	15.905
24		AR1248	09/30/15	0929	14051784	4.397	6264067	15.906
25		AR1660	09/30/15	0951	14316341	4.397	6504673	15.907

IS1 = 1-Bromo-2-Nitrobenzene RT Window = RT +/- 0.1 min
IS2 = Hexabromobiphenyl

* Indicates value outside QC Limits

Analytical Resources, Inc. Report No. ANA5

Analytical Resources, Incorporated
Analytical Chemists and Consultants

6 October 2015

Dee Gardner
Sound Earth Strategies, Inc.
2811 Fairview Avenue East, Suite 2000
Seattle, WA 98102

RE: JFOS3
ARI Job No.: ANA5

Dear Dee:

Please find enclosed the original chain of custody record and the final results for the sample from the project referenced above. Analytical Resources, Inc. received one soil sample on September 23, 2015. The sample was analyzed for PCBs as requested.

This analysis proceeded without incident of note.

If you have any questions regarding these results, please feel free to contact me at your convenience.

Sincerely,

ANALYTICAL RESOURCES, INC.

Mark D. Harris
Project Manager
206/695-6210
markh@arilabs.com

cc: Miles Dyer, Jorgensen Forge
file ANA5

Enclosures

4611 South 134th Place, Suite 100 • Tukwila WA 98168 • **206-695-6200** • **206-695-6201** fax

Chain of Custody Record & Laboratory Analysis Request

ARI Assigned Number: ANQS	Turn-around Requested: STANDARD	Page: 1 of 1	
ARI Client Company: JORGENSEN FORGE CORP.	Phone: 206.762.1100	Date: 9/23/15	Ice Present?
Client Contact: MILES DYER		No. of Coolers:	Cooler Temps:
Client Project Name: JFOS3			
Client Project #:	Samplers: J. LOEFFLER		

Analytical Resources, Incorporated
Analytical Chemists and Consultants
4611 South 134th Place, Suite 100
Tukwila, WA 98168
206-695-6200 206-695-6201 (fax)
www.arilabs.com

Sample ID	Date	Time	Matrix	No. Containers	Analysis Requested: PCBs by EPA 8082	Notes/Comments
CMP24-B10+05R	9/23/15	0850	H_2O	1	X	STAGE 2B REPORTING PER SAP/QAPP

9/23/15

Comments/Special Instructions	Relinquished by: (Signature)	Received by: (Signature)	Relinquished by: (Signature)	Received by: (Signature)
CC: DEE GARDNER AND JONATHAN LOEFFLER AT SOUNDEARTH dgardner@soundearthinc.com jloeffler@soundearthinc.com	Printed Name: JONATHAN LOEFFLER	Printed Name: EMILY LHWIN	Printed Name:	Printed Name:
	Company: SOUNDEARTH	Company: ARI	Company:	Company:
	Date & Time: 9/23/15 @1027	Date & Time: 9/23/15 1027	Date & Time:	Date & Time:

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Cooler Receipt Form

ARI Client: Jorgensen Forge Project Name: JFOS3

COC No(s): _____ NA Delivered by: Fed-Ex UPS Courier Hand Delivered Other: _____

Assigned ARI Job No: ANA5 Tracking No: _____ NA

Preliminary Examination Phase:

Were intact, properly signed and dated custody seals attached to the outside of to cooler?	YES	NO
Were custody papers included with the cooler?	YES	NO
Were custody papers properly filled out (ink, signed, etc.)	YES	NO

Temperature of Cooler(s) (°C) (recommended 2.0-6.0 °C for chemistry) 5.2
Time: _____

If cooler temperature is out of compliance fill out form 00070F Temp Gun ID#: D0026605

Cooler Accepted by: WL Date: 9/23/15 Time: 1027

Complete custody forms and attach all shipping documents

Log-In Phase:

Was a temperature blank included in the cooler?		YES	NO
What kind of packing material was used? ... Bubble Wrap Wet Ice Gel Packs Baggies Foam Block Paper Other: _____			
Was sufficient ice used (if appropriate)?	NA	YES	NO
Were all bottles sealed in individual plastic bags?		YES	NO
Did all bottles arrive in good condition (unbroken)?		YES	NO
Were all bottle labels complete and legible?		YES	NO
Did the number of containers listed on COC match with the number of containers received?		YES	NO
Did all bottle labels and tags agree with custody papers?		YES	NO
Were all bottles used correct for the requested analyses?		YES	NO
Do any of the analyses (bottles) require preservation? (attach preservation sheet, excluding VOCs)...	NA	YES	NO
Were all VOC vials free of air bubbles?	NA	YES	NO
Was sufficient amount of sample sent in each bottle?		YES	NO
Date VOC Trip Blank was made at ARI...	NA	_____	

Was Sample Split by ARI : NA YES Date/Time: _____ Equipment: _____ Split by: _____

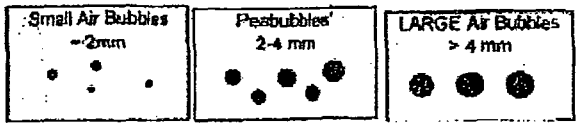
Samples Logged by: WL Date: 9/23 Time: 1354

*** Notify Project Manager of discrepancies or concerns ***

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Additional Notes, Discrepancies, & Resolutions:

By: Date:



Small → "sm" (< 2 mm)
Peabubbles → "pb" (2 to < 4 mm)
Large → "lg" (4 to < 6 mm)
Headspace → "hs" (> 6 mm)

Sample ID Cross Reference Report

ANALYTICAL RESOURCES INCORPORATED

ARI Job No: ANA5
Client: Jorgensen Forge
Project Event: N/A
Project Name: JFOS3

	Sample ID	ARI Lab ID	ARI LIMS ID	Matrix	Sample Date/Time	VTSR
1.	CMP24-B10+05R	ANA5A	15-17008	Water	09/23/15 08:50	09/23/15 10:27

Analytical Resources,
Incorporated
Analytical Chemists and
Consultants

Data Reporting Qualifiers

Effective 12/31/13

Inorganic Data

U — Indicates that the target analyte was not detected at the reported concentration

* — Duplicate RPD is not within established control limits

B — Reported value is less than the CRDL but ≥ the Reporting Limit

N — Matrix Spike recovery not within established control limits

NA — Not Applicable, analyte not spiked

H — The natural concentration of the spiked element is so much greater than the concentration spiked that an accurate determination of spike recovery is not possible

L — Analyte concentration is ≤5 times the Reporting Limit and the replicate control limit defaults to ±1 RL instead of the normal 20% RPD

Organic Data

U — Indicates that the target analyte was not detected at the reported concentration

* — Flagged value is not within established control limits

B — Analyte detected in an associated Method Blank at a concentration greater than one-half of ARI's Reporting Limit or 5% of the regulatory limit or 5% of the analyte concentration in the sample.

J — Estimated concentration when the value is less than ARI's established reporting limits

D — The spiked compound was not detected due to sample extract dilution

E — Estimated concentration calculated for an analyte response above the valid instrument calibration range. A dilution is required to obtain an accurate quantification of the analyte.

Q	Indicates a detected analyte with an initial or continuing calibration that does not meet established acceptance criteria (<20%RSD, <20%Drift or minimum RRF).
S	Indicates an analyte response that has saturated the detector. The calculated concentration is not valid; a dilution is required to obtain valid quantification of the analyte
NA	The flagged analyte was not analyzed for
NR	Spiked compound recovery is not reported due to chromatographic interference
NS	The flagged analyte was not spiked into the sample
M	Estimated value for an analyte detected and confirmed by an analyst but with low spectral match parameters. This flag is used only for GC-MS analyses
N	The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification"
Y	The analyte is not detected at or above the reported concentration. The reporting limit is raised due to chromatographic interference. The Y flag is equivalent to the U flag with a raised reporting limit.
EMPC	Estimated Maximum Possible Concentration (EMPC) defined in EPA Statement of Work DLM02.2 as a value "calculated for 2,3,7,8-substituted isomers for which the quantitation and /or confirmation ion(s) has signal to noise in excess of 2.5, but does not meet identification criteria" **(Dioxin/Furan analysis only)**
C	The analyte was positively identified on only one of two chromatographic columns. Chromatographic interference prevented a positive identification on the second column
P	The analyte was detected on both chromatographic columns but the quantified values differ by ≥40% RPD with no obvious chromatographic interference
X	Analyte signal includes interference from polychlorinated diphenyl ethers. **(Dioxin/Furan analysis only)**
Z	Analyte signal includes interference from the sample matrix or perfluorokerosene ions. **(Dioxin/Furan analysis only)**

Geotechnical Data

A	The total of all fines fractions. This flag is used to report total fines when only sieve analysis is requested and balances total grain size with sample weight.
F	Samples were frozen prior to particle size determination
SM	Sample matrix was not appropriate for the requested analysis. This normally refers to samples contaminated with an organic product that interferes with the sieving process and/or moisture content, porosity and saturation calculations
SS	Sample did not contain the proportion of "fines" required to perform the pipette portion of the grain size analysis
W	Weight of sample in some pipette aliquots was below the level required for accurate weighting

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082A
Extraction Method: SW3510C
Page 1 of 1

Sample ID: MB-092915
METHOD BLANK

Lab Sample ID: MB-092915
LIMS ID: 15-17008
Matrix: Water
Data Release Authorized: MW
Reported: 10/06/15

QC Report No: ANA5-Jorgensen Forge
Project: JFOS3

Date Sampled: NA
Date Received: NA

Date Extracted: 09/29/15
Date Analyzed: 10/01/15 01:31
Instrument/Analyst: ECD7/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes

Sample Amount: 500 mL
Final Extract Volume: 5.0 mL
Dilution Factor: 1.00
Silica Gel: No
Acid Cleanup: Yes

CAS Number	Analyte	LOQ	Result
12674-11-2	Aroclor 1016	1.0	< 1.0 U
53469-21-9	Aroclor 1242	1.0	< 1.0 U
12672-29-6	Aroclor 1248	1.0	< 1.0 U
11097-69-1	Aroclor 1254	1.0	< 1.0 U
11096-82-5	Aroclor 1260	1.0	< 1.0 U
11104-28-2	Aroclor 1221	1.0	< 1.0 U
11141-16-5	Aroclor 1232	1.0	< 1.0 U
37324-23-5	Aroclor 1262	1.0	< 1.0 U
11100-14-4	Aroclor 1268	1.0	< 1.0 U

Reported in µg/L (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	64.8%
Tetrachlorometaxylene	68.5%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082A
Extraction Method: SW3510C
Page 1 of 1

Sample ID: CMP24-B10+05R
SAMPLE

Lab Sample ID: ANA5A
LIMS ID: 15-17008
Matrix: Water
Data Release Authorized: TWW
Reported: 10/06/15

QC Report No: ANA5-Jorgensen Forge
Project: JFOS3

Date Sampled: 09/23/15
Date Received: 09/23/15

Date Extracted: 09/29/15
Date Analyzed: 10/01/15 02:34
Instrument/Analyst: ECD7/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes

Sample Amount: 500 mL
Final Extract Volume: 5.0 mL
Dilution Factor: 1.00
Silica Gel: No
Acid Cleanup: Yes

CAS Number	Analyte	LOQ	Result
12674-11-2	Aroclor 1016	1.0	< 1.0 U
53469-21-9	Aroclor 1242	1.0	< 1.0 U
12672-29-6	Aroclor 1248	1.0	< 1.0 U
11097-69-1	Aroclor 1254	1.0	< 1.0 U
11096-82-5	Aroclor 1260	1.0	< 1.0 U
11104-28-2	Aroclor 1221	1.0	< 1.0 U
11141-16-5	Aroclor 1232	1.0	< 1.0 U
37324-23-5	Aroclor 1262	1.0	< 1.0 U
11100-14-4	Aroclor 1268	1.0	< 1.0 U

Reported in µg/L (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	69.0%
Tetrachlorometaxylene	75.2%

ANALYTICAL RESOURCES INCORPORATED

SW8082/PCB WATER SURROGATE RECOVERY SUMMARY

Matrix: Water

QC Report No: ANA5-Jorgensen Forge
Project: JFOS3

Client ID	DCBP % REC	DCBP LCL-UCL	TCMX % REC	TCMX LCL-UCL	TOT OUT
MB-092915	64.8%	38-120	68.5%	29-120	0
LCS-092915	64.2%	38-120	72.2%	29-120	0
LCSD-092915	67.0%	38-120	71.2%	29-120	0
CMP24-B10+05R	69.0%	38-120	75.2%	29-120	0

Prep Method: SW3510C
Log Number Range: 15-17008 to 15-17008

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082A
Page 1 of 1

Sample ID: LCS-092915
LCS/LCSD

Lab Sample ID: LCS-092915
LIMS ID: 15-17008
Matrix: Water
Data Release Authorized:
Reported: 10/06/15

QC Report No: ANA5-Jorgensen Forge
Project: JFOS3

Date Sampled: NA
Date Received: NA

Date Extracted LCS/LCSD: 09/29/15

Date Analyzed LCS: 10/01/15 01:52
LCSD: 10/01/15 02:13
Instrument/Analyst LCS: ECD7/JGR
LCSD: ECD7/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes

Sample Amount LCS: 500 mL
LCSD: 500 mL
Final Extract Volume LCS: 5.0 mL
LCSD: 5.0 mL
Dilution Factor LCS: 1.00
LCSD: 1.00
Silica Gel: No
Acid Cleanup: Yes

Analyte	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	RPD
Aroclor 1016	3.85	5.00	77.0%	3.94	5.00	78.8%	2.3%
Aroclor 1260	4.10	5.00	82.0%	4.27	5.00	85.4%	4.1%

PCB Surrogate Recovery

	LCS	LCSD
Decachlorobiphenyl	64.2%	67.0%
Tetrachlorometaxylene	72.2%	71.2%

Results reported in µg/L
RPD calculated using sample concentrations per SW846.

4

PCB METHOD BLANK SUMMARY

BLANK NO.

ANA5MBW1

Lab Name: ANALYTICAL RESOURCES INC — Client: JORGENSEN FORGE

ARI Job No.: ANA5 — Project: JFOS3

Lab Sample ID: ANA5MBW1 — Lab File ID: 09301531

Date Extracted: 09/29/15 — Matrix: LIQUID

Date Analyzed: 10/01/15 — Instrument ID: ECD7

Time Analyzed: 0131 — GC Columns: ZB5/ZB35

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS and MSD:

	CLIENT SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED
01	ANA5LCSW1	ANA5LCSW1	10/01/15
02	ANA5LCSDW1	ANA5LCSDW1	10/01/15
03	CMP24-B10+05R	ANA5A	10/01/15

ALL RUNS ARE DUAL COLUMN

6F

8082 INITIAL CALIBRATION OF AROCLOR 1016/1260

Lab Name: ANALYTICAL RESOURCES INC Client: JORGENSEN FORGE

ARI Job No.: ANA5 Project: JFOS3

GC Column: ZB5 Instrument ID: ECD7

Calibration Date: 09/30/15

SURROGATES

	RT WIN	LVL1	LVL2	LVL3	LVL4	LVL5	LVL6	MEAN	%RSD
TCX	6.18- 6.38	0.4869	0.4885	0.5046	0.5100	0.5313	0.5331	0.5091	3.9
DCB	14.74-14.94	1.9999	1.7489	1.5777	1.4444	1.4611	1.4311	1.6105	14.0

Aroclor-1016 Peak	RT WIN	LVL1 .02	LVL2 0.05	LVL3 0.1	LVL4 .25	LVL5 0.5	LVL6 1.0	MEAN	%RSD R^2
1	8.18- 8.38	0.0141	0.0130	0.0132	0.0124	0.0122	0.0115	0.0127	7.0
2	8.67- 8.87	0.0416	0.0413	0.0411	0.0390	0.0392	0.0379	0.0400	3.8
3	8.97- 9.17	0.0130	0.0141	0.0142	0.0137	0.0137	0.0132	0.0137	3.5
4	9.75- 9.95	0.0153	0.0157	0.0156	0.0148	0.0148	0.0141	0.0150	4.0

AROCLOR AVERAGE %RSD = 4.6

Aroclor-1260 Peak	RT WIN	LVL1 .02	LVL2 0.05	LVL3 0.1	LVL4 .25	LVL5 0.5	LVL6 1.0	MEAN	%RSD R^2
1	12.30-12.50	0.0648	0.0613	0.0605	0.0598	0.0586	0.0568	0.0603	4.5
2	12.98-13.18	0.1631	0.1619	0.1670	0.1740	0.1795	0.1813	0.1711	4.9
3	13.35-13.55	0.0657	0.0653	0.0664	0.0676	0.0680	0.0672	0.0667	1.6
4	13.45-13.65	0.0448	0.0428	0.0430	0.0435	0.0435	0.0425	0.0433	1.9
5	13.86-14.06	0.0220	0.0219	0.0211	0.0209	0.0206	0.0201	0.0211	3.4

AROCLOR AVERAGE %RSD = 3.3

6F

8082 INITIAL CALIBRATION OF AROCLOR 1016/1260

Lab Name: ANALYTICAL RESOURCES INC Client: JORGENSEN FORGE

ARI Job No.: ANA5 Project: JFOS3

GC Column: ZB35 Instrument ID: ECD7

Calibration Date: 09/30/15

SURROGATES

RT WIN	LVL1	LVL2	LVL3	LVL4	LVL5	LVL6	MEAN	%RSD
TCX 6.57- 6.77	0.9968	0.9652	0.9726	0.9407	0.9402	0.8993	0.9525	3.5
DCB 15.22-15.42	1.6558	1.4818	1.3817	1.2372	1.2518	1.1910	1.3666	13.0

Aroclor-1016 Peak RT WIN	LVL1 .02	LVL2 0.05	LVL3 0.1	LVL4 .25	LVL5 0.5	LVL6 1.0	MEAN	%RSD R^2
1 8.68- 8.88	0.0518	0.0466	0.0443	0.0397	0.0373	0.0339	0.0423	15.5
2 9.39- 9.59	0.1013	0.0928	0.0905	0.0825	0.0802	0.0746	0.0870	11.1
3 9.81-10.01	0.0256	0.0250	0.0244	0.0222	0.0212	0.0197	0.0230	10.1
4 10.35-10.55	0.0344	0.0324	0.0312	0.0284	0.0272	0.0253	0.0298	11.4

AROCLOR AVERAGE %RSD = 12.1

Aroclor-1260 Peak RT WIN	LVL1 .02	LVL2 0.05	LVL3 0.1	LVL4 .25	LVL5 0.5	LVL6 1.0	MEAN	%RSD R^2
1 12.81-13.01	0.1411	0.1230	0.1167	0.1066	0.1028	0.0954	0.1143	14.4
2 13.56-13.76	0.2283	0.2154	0.2101	0.1972	0.1977	0.1866	0.2059	7.3
3 13.99-14.19	0.0791	0.0694	0.0650	0.0580	0.0571	0.0530	0.0636	15.1
4 14.05-14.25	0.1561	0.1407	0.1372	0.1237	0.1243	0.1158	0.1330	11.0

AROCLOR AVERAGE %RSD = 11.9

6G

8082 INITIAL CALIBRATION OF SINGLE POINT PCBs

Lab Name: ANALYTICAL RESOURCES INC Client: JORGENSEN FORGE

ARI Job No.: ANA5 Project: JFOS3

GC Column: ZB5 Instrument ID: ECD7

Calibration Date: 09/30/15

Aroclor-1221			
Peak	RT	RT WIN	Cal Factor
1	4.961	4.86- 5.06	0.00283
2	6.935	6.84- 7.04	0.00465
3	7.060	6.96- 7.16	0.01406

Aroclor-1232			
Peak	RT	RT WIN	Cal Factor
1	4.960	4.86- 5.06	0.00157
2	7.057	6.96- 7.16	0.00920
3	8.765	8.66- 8.86	0.01630
4	9.661	9.56- 9.76	0.00525

Aroclor-1242			
Peak	RT	RT WIN	Cal Factor
1	8.768	8.67- 8.87	0.03058
2	9.065	8.97- 9.17	0.01086
3	10.299	10.20-10.40	0.01433
4	10.545	10.45-10.65	0.01603

Aroclor-1248			
Peak	RT	RT WIN	Cal Factor
1	9.403	9.30- 9.50	0.00814
2	9.847	9.75- 9.95	0.01928
3	10.297	10.20-10.40	0.02293
4	10.542	10.44-10.64	0.02321

6G

8082 INITIAL CALIBRATION OF SINGLE POINT PCBs

Lab Name: ANALYTICAL RESOURCES INC Client: JORGENSEN FORGE

ARI Job No.: ANA5 Project: JFOS3

GC Column: ZB5 Instrument ID: ECD7

Calibration Date: 09/30/15

Aroclor-1254			
Peak	RT	RT WIN	Cal Factor
1	10.306	10.21-10.41	0.01495
2	10.626	10.53-10.73	0.02250
3	11.007	10.91-11.11	0.01784
4	11.145	11.04-11.24	0.03371
5	11.859	11.76-11.96	0.02434

Aroclor-1262			
Peak	RT	RT WIN	Cal Factor
1	12.404	12.30-12.50	0.07896
2	13.079	12.98-13.18	0.18539
3	13.454	13.35-13.55	0.04855
4	13.618	13.52-13.72	0.07904
5	14.164	14.06-14.26	0.06398

Aroclor-1268			
Peak	RT	RT WIN	Cal Factor
1	13.555	13.45-13.65	0.23016
2	13.617	13.52-13.72	0.21624
3	13.942	13.84-14.04	0.19228
4	14.547	14.45-14.65	0.54029

6G

8082 INITIAL CALIBRATION OF SINGLE POINT PCBs

Lab Name: ANALYTICAL RESOURCES INC Client: JORGENSEN FORGE

ARI Job No.: ANA5 Project: JFOS3

GC Column: ZB35 Instrument ID: ECD7

Calibration Date: 09/30/15

Aroclor-1221			
Peak	RT	RT WIN	Cal Factor
1	5.768	5.67- 5.87	0.00782
2	7.493	7.39- 7.59	0.01292
3	7.795	7.69- 7.89	0.00749
4	7.935	7.84- 8.04	0.02264

Aroclor-1232			
Peak	RT	RT WIN	Cal Factor
1	5.767	5.67- 5.87	0.00476
2	7.934	7.83- 8.03	0.01608
3	8.779	8.68- 8.88	0.01883
4	9.903	9.80-10.00	0.00983

Aroclor-1242			
Peak	RT	RT WIN	Cal Factor
1	8.781	8.68- 8.88	0.03153
2	9.487	9.39- 9.59	0.06518
3	10.906	10.81-11.01	0.02886
4	11.348	11.25-11.45	0.02919

Aroclor-1248			
Peak	RT	RT WIN	Cal Factor
1	9.481	9.38- 9.58	0.03895
2	10.452	10.35-10.55	0.03290
3	10.988	10.89-11.09	0.03431
4	11.349	11.25-11.45	0.04457

6G

8082 INITIAL CALIBRATION OF SINGLE POINT PCBs

Lab Name: ANALYTICAL RESOURCES INC Client: JORGENSEN FORGE

ARI Job No.: ANA5 Project: JFOS3

GC Column: ZB35 Instrument ID: ECD7

Calibration Date: 09/30/15

Aroclor-1254			
Peak	RT	RT WIN	Cal Factor
1	11.221	11.12-11.32	0.03999
2	11.318	11.22-11.42	0.01897
3	11.757	11.66-11.86	0.03150
4	11.909	11.81-12.01	0.06224
5	12.688	12.59-12.79	0.04037

Aroclor-1262			
Peak	RT	RT WIN	Cal Factor
1	12.909	12.81-13.01	0.05308
2	13.431	13.33-13.53	0.10909
3	13.658	13.56-13.76	0.21531
4	14.145	14.04-14.24	0.13699
5	14.687	14.59-14.79	0.06737

Aroclor-1268			
Peak	RT	RT WIN	Cal Factor
1	14.092	13.99-14.19	0.22060
2	14.145	14.05-14.25	0.20647
3	14.454	14.35-14.55	0.16601
4	15.033	14.93-15.13	0.44811

7F

PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES INC Client: JORGENSEN FORGE

ARI Job No.: ANA5 Project: JFOS3

GC Column: ZB5 Intrument: ECD7

Init. Calib. Date: 09/30/15

Date Analyzed :09/30/15

Lab Standard ID: AR1254 Time Analyzed :2344

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1254-1	10.31	10.21	10.41	250.0	250.0	-0.0
Aroclor-1254-2	10.63	10.53	10.73	249.3	250.0	-0.3
Aroclor-1254-3	11.01	10.91	11.11	249.1	250.0	-0.3
Aroclor-1254-4	11.14	11.04	11.24	249.1	250.0	-0.4
Aroclor-1254-5	11.86	11.76	11.96	249.8	250.0	-0.1

AROCLOR AVG: 249.5 CAL %D = -0.2

FORM VII PCB

7F

PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES INC Client: JORGENSEN FORGE

ARI Job No.: ANA5 Project: JFOS3

GC Column: ZB5 Intrument: ECD7

Init. Calib. Date: 09/30/15

Date Analyzed :10/01/15

Lab Standard ID: AR1660 Time Analyzed :0005

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1016-1	8.28	8.18	8.38	240.9	250.0	-3.6
Aroclor-1016-2	8.76	8.67	8.87	241.0	250.0	-3.6
Aroclor-1016-3	9.06	8.97	9.17	246.7	250.0	-1.3
Aroclor-1016-4	9.85	9.75	9.95	241.8	250.0	-3.3

AROCLOR AVG: 242.6 CAL %D = -3.0

Date Analyzed :10/01/15

Lab Standard ID: AR1660 Time Analyzed :0005

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1260-1	12.40	12.30	12.50	230.6	250.0	-7.8
Aroclor-1260-2	13.08	12.98	13.18	239.1	250.0	-4.4
Aroclor-1260-3	13.45	13.35	13.55	238.2	250.0	-4.7
Aroclor-1260-4	13.55	13.45	13.65	234.6	250.0	-6.2
Aroclor-1260-5	13.96	13.86	14.06	231.7	250.0	-7.3

AROCLOR AVG: 234.8 CAL %D = -6.1

7F

PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES INC Client: JORGENSEN FORGE

ARI Job No.: ANA5 Project: JFOS3

GC Column: ZB5 Intrument: ECD7

Init. Calib. Date: 09/30/15

Date Analyzed :10/01/15

Lab Standard ID: AR1248 Time Analyzed :0359

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1248-1	9.40	9.30	9.50	251.0	250.0	0.4
Aroclor-1248-2	9.85	9.75	9.95	250.1	250.0	0.0
Aroclor-1248-3	10.30	10.20	10.40	250.7	250.0	0.3
Aroclor-1248-4	10.54	10.44	10.64	250.9	250.0	0.3

AROCLOR AVG: 250.7 CAL %D = 0.3

FORM VII PCB

7F

PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES INC Client: JORGENSEN FORGE

ARI Job No.: ANA5 Project: JFOS3

GC Column: ZB5 Intrument: ECD7

Init. Calib. Date: 09/30/15

Date Analyzed :10/01/15

Lab Standard ID: AR1660 Time Analyzed :0421

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1016-1	8.28	8.18	8.38	241.0	250.0	-3.6
Aroclor-1016-2	8.76	8.67	8.87	241.2	250.0	-3.5
Aroclor-1016-3	9.06	8.97	9.17	247.0	250.0	-1.2
Aroclor-1016-4	9.85	9.75	9.95	242.8	250.0	-2.9

AROCLOR AVG: 243.0 CAL %D = -2.8

Date Analyzed :10/01/15

Lab Standard ID: AR1660 Time Analyzed :0421

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1260-1	12.40	12.30	12.50	233.1	250.0	-6.8
Aroclor-1260-2	13.08	12.98	13.18	240.2	250.0	-3.9
Aroclor-1260-3	13.45	13.35	13.55	238.0	250.0	-4.8
Aroclor-1260-4	13.55	13.45	13.65	234.6	250.0	-6.1
Aroclor-1260-5	13.96	13.86	14.06	231.9	250.0	-7.2

AROCLOR AVG: 235.6 CAL %D = -5.8

7F

PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES INC Client: JORGENSEN FORGE

ARI Job No.: ANA5 Project: JFOS3

GC Column: ZB35 Intrument: ECD7

Init. Calib. Date: 09/30/15

Date Analyzed :09/30/15

Lab Standard ID: AR1254 Time Analyzed :2344

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1254-1	11.22	11.12	11.32	250.5	250.0	0.2
Aroclor-1254-2	11.31	11.22	11.42	249.8	250.0	-0.1
Aroclor-1254-3	11.75	11.66	11.86	251.1	250.0	0.4
Aroclor-1254-4	11.90	11.81	12.01	250.7	250.0	0.3
Aroclor-1254-5	12.68	12.59	12.79	252.4	250.0	1.0

AROCLOR AVG: 250.9 CAL %D = 0.4

FORM VII PCB

7F

PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES INC Client: JORGENSEN FORGE

ARI Job No.: ANA5 Project: JFOS3

GC Column: ZB35 Intrument: ECD7

Init. Calib. Date: 09/30/15

Date Analyzed :10/01/15

Lab Standard ID: AR1660 Time Analyzed :0005

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1016-1	8.78	8.68	8.88	232.2	250.0	-7.1
Aroclor-1016-2	9.48	9.39	9.59	234.0	250.0	-6.4
Aroclor-1016-3	9.90	9.81	10.01	237.6	250.0	-4.9
Aroclor-1016-4	10.44	10.35	10.55	236.6	250.0	-5.4

AROCLOR AVG: 235.1 CAL %D = -6.0

Date Analyzed :10/01/15

Lab Standard ID: AR1660 Time Analyzed :0005

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1260-1	12.91	12.81	13.01	223.4	250.0	-10.6
Aroclor-1260-2	13.66	13.56	13.76	236.3	250.0	-5.5
Aroclor-1260-3	14.09	13.99	14.19	231.1	250.0	-7.6
Aroclor-1260-4	14.14	14.05	14.25	238.1	250.0	-4.8

AROCLOR AVG: 232.2 CAL %D = -7.1

FORM VII PCB

7F

PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES INC Client: JORGENSEN FORGE

ARI Job No.: ANA5 Project: JFOS3

GC Column: ZB35 Intrument: ECD7

Init. Calib. Date: 09/30/15

Date Analyzed :10/01/15

Lab Standard ID: AR1248 Time Analyzed :0359

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1248-1	9.47	9.38	9.58	251.5	250.0	0.6
Aroclor-1248-2	10.44	10.35	10.55	249.7	250.0	-0.1
Aroclor-1248-3	10.98	10.89	11.09	250.4	250.0	0.1
Aroclor-1248-4	11.34	11.25	11.45	249.5	250.0	-0.2

AROCLOR AVG: 250.3 CAL %D = 0.1

FORM VII PCB

7F

PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES INC Client: JORGENSEN FORGE

ARI Job No.: ANA5 Project: JFOS3

GC Column: ZB35 Intrument: ECD7

Init. Calib. Date: 09/30/15

Date Analyzed :10/01/15

Lab Standard ID: AR1660 Time Analyzed :0421

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1016-1	8.78	8.68	8.88	232.4	250.0	-7.0
Aroclor-1016-2	9.48	9.39	9.59	234.6	250.0	-6.2
Aroclor-1016-3	9.90	9.81	10.01	238.6	250.0	-4.6
Aroclor-1016-4	10.44	10.35	10.55	233.9	250.0	-6.4

AROCLOR AVG: 234.9 CAL %D = -6.0

Date Analyzed :10/01/15

Lab Standard ID: AR1660 Time Analyzed :0421

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1260-1	12.91	12.81	13.01	219.0	250.0	-12.4
Aroclor-1260-2	13.66	13.56	13.76	232.5	250.0	-7.0
Aroclor-1260-3	14.09	13.99	14.19	227.0	250.0	-9.2
Aroclor-1260-4	14.14	14.05	14.25	233.5	250.0	-6.6

AROCLOR AVG: 228.0 CAL %D = -8.8

FORM 8
PCB INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ANALYTICAL RESOURCES INC Client: JORGENSEN FORGE

ARI Job No.: ANA5 Project: JFOS3

GC Column: ZB5 ID: 0.53(mm) Instrument ID: ECD7

Init. Calib. Date: 09/30/15

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS, SAMPLES, AND STANDARDS IS GIVEN BELOW:

					IS1 AREA	RT	IS2 AREA	RT
				ICAL MIDPT	8066556	3.285	5454994	15.095
				UPPER LIMIT	16133112	3.385	10909988	15.195
				LOWER LIMIT	4033278	3.185	2727497	14.995
	CLIENT SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED	TIME	IS1 AREA	RT	IS2 AREA	RT
01	ZZZZZ	ZZZZZ	09/30/15	1639	8156160	3.285	5568951	15.096
02		0.25PPMAR166	09/30/15	1700	8066556	3.285	5454994	15.095
03		0.02PPMAR166	09/30/15	1721	8091336	3.284	5600526	15.095
04		0.05PPMAR166	09/30/15	1742	7913459	3.284	5577369	15.095
05		1PPMAR1660	09/30/15	1804	7875770	3.284	5564302	15.095
06		0.1PPMAR1660	09/30/15	1825	8219827	3.283	5857219	15.095
07		0.5PPMAR1660	09/30/15	1846	8005014	3.282	5619457	15.095
08		AR1242	09/30/15	1908	8062646	3.284	5758938	15.095
09		AR1248	09/30/15	1929	8072160	3.285	5743651	15.095
10		AR1254	09/30/15	1950	8169016	3.284	5868403	15.095
11		AR2162	09/30/15	2012	8215009	3.282	5905238	15.094
12		AR3268	09/30/15	2033	8262439	3.282	5888824	15.094
13	ZZZZZ	ZZZZZ	09/30/15	2054	7975276	3.281	5736817	15.094
14	ZZZZZ	ZZZZZ	09/30/15	2115	8130853	3.278	5928831	15.094
15	ZZZZZ	ZZZZZ	09/30/15	2137	7961470	3.279	5833507	15.094
16	ZZZZZ	ZZZZZ	09/30/15	2158	8188078	3.281	5977419	15.094
17	ZZZZZ	ZZZZZ	09/30/15	2219	7988538	3.280	5855523	15.094
18	ZZZZZ	ZZZZZ	09/30/15	2240	8082296	3.280	5892233	15.094
19		AR1254	09/30/15	2344	8213042	3.280	5942812	15.094
20		AR1660	10/01/15	0005	8273029	3.279	6050806	15.094
21	ANA5MBW1	ANA5MBW1	10/01/15	0131	8494341	3.278	5287992	15.094
22	ANA5LCSW1	ANA5LCSW1	10/01/15	0152	8472338	3.280	5588755	15.094
23	ANA5LCSDW1	ANA5LCSDW1	10/01/15	0213	8610838	3.279	5809091	15.094
24	CMP24-B10+05	ANA5A	10/01/15	0234	8810360	3.278	6088583	15.094
25		AR1248	10/01/15	0359	8285443	3.279	6050695	15.094
26		AR1660	10/01/15	0421	8369053	3.279	6077631	15.094

IS1 = 1-Bromo-2-Nitrobenzene RT Window = RT +/- 0.1 min
IS2 = Hexabromobiphenyl

* Indicates value outside QC Limits

FORM 8

PCB INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ANALYTICAL RESOURCES INC Client: JORGENSEN FORGE

ARI Job No.: ANA5 Project: JFOS3

GC Column: ZB35 ID: 0.53(mm) Instrument ID: ECD7

Init. Calib. Date: 09/30/15

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS, SAMPLES, AND STANDARDS IS GIVEN BELOW:

		IS1 AREA	RT	IS2 AREA	RT
	ICAL MIDPT	13586362	4.397	6512961	15.906
	UPPER LIMIT	27172724	4.497	13025922	16.006
	LOWER LIMIT	6793181	4.297	3256480	15.806

	CLIENT SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED	TIME	IS1 AREA	RT	IS2 AREA	RT
01	ZZZZZ	ZZZZZ	09/30/15	1639	13723894	4.396	6632024	15.907
02		0.25PPMAR166	09/30/15	1700	13586362	4.397	6512961	15.906
03		0.02PPMAR166	09/30/15	1721	13532075	4.395	6625253	15.907
04		0.05PPMAR166	09/30/15	1742	13332298	4.396	6594047	15.906
05		1PPMAR1660	09/30/15	1804	13337715	4.397	6622148	15.906
06		0.1PPMAR1660	09/30/15	1825	13929861	4.395	6974857	15.907
07		0.5PPMAR1660	09/30/15	1846	13624637	4.395	6729270	15.907
08		AR1242	09/30/15	1908	13648234	4.396	6860812	15.906
09		AR1248	09/30/15	1929	13676949	4.397	6835392	15.907
10		AR1254	09/30/15	1950	13737253	4.395	6972452	15.906
11		AR2162	09/30/15	2012	13635771	4.395	6981224	15.906
12		AR3268	09/30/15	2033	13710660	4.394	6956825	15.906
13	ZZZZZ	ZZZZZ	09/30/15	2054	13350323	4.394	6821654	15.905
14	ZZZZZ	ZZZZZ	09/30/15	2115	13598897	4.391	6969140	15.906
15	ZZZZZ	ZZZZZ	09/30/15	2137	13344503	4.392	6865704	15.906
16	ZZZZZ	ZZZZZ	09/30/15	2158	13682152	4.392	7087472	15.905
17	ZZZZZ	ZZZZZ	09/30/15	2219	13312259	4.392	6942012	15.905
18	ZZZZZ	ZZZZZ	09/30/15	2240	13480625	4.393	7000012	15.905
19		AR1254	09/30/15	2344	13695493	4.392	7031986	15.906
20		AR1660	10/01/15	0005	13883889	4.392	7177767	15.906
21	ANA5MBW1	ANA5MBW1	10/01/15	0131	14070776	4.390	6747544	15.905
22	ANA5LCSW1	ANA5LCSW1	10/01/15	0152	14042885	4.392	6882519	15.905
23	ANA5LCSDW1	ANA5LCSDW1	10/01/15	0213	14294753	4.391	7097433	15.905
24	CMP24-B10+05	ANA5A	10/01/15	0234	14639442	4.390	7375648	15.905
25		AR1248	10/01/15	0359	13926088	4.390	7290537	15.905
26		AR1660	10/01/15	0421	14069800	4.391	7343472	15.905

IS1 = 1-Bromo-2-Nitrobenzene RT Window = RT +/- 0.1 min

IS2 = Hexabromobiphenyl

* Indicates value outside QC Limits

ATTACHMENT C

DATA VALIDATION REPORT

Data Validation Report

Jorgensen Forge Outfall Site, Third Modification
Unshored Excavation Areas
Seattle, Washington

Laboratory Project Numbers:

AML7, AMN4, AMO6, AMV1, AMW0, ANA4, ANA5

Prepared for:

SoundEarth Strategies, Inc.
2811 Fairview Ave East, Suite 2000
Seattle, Washington 98102

Prepared by:

Pyron Environmental, Inc.
3530 32nd Way, NW
Olympia, WA 98502

Approved By: _____ Date: ***11/4/2015***

Mingta Lin, Senior Project Chemist

ACRONYMS

%	percent
%D	percent difference
%D_f	percent drift
%R	percent recovery
%RSD	percent relative standard deviation
ARI	Analytical Resources, Inc.
CCV	continuing calibration verification
CF	calibration factor
CLP	U.S. EPA Contract Laboratory Program
COC	chain-of-custody
ECD	electron capture detector
EPA	U.S. Environmental Protection Agency
ICAL	initial calibration
ICV	initial calibration verification
LCS	laboratory control sample
LCSD	laboratory control sample duplicate
MDL	method detection limit
mg/kg	milligram per kilogram
MS	matrix spike
MSD	matrix spike duplicate
NFGs	CLP National Functional Guidelines for Data Review (EPA 2014)
PCBs	polychlorinated biphenyls
QA/QC	quality assurance/quality control
QAPP	quality assurance project plan
RF	response factor
RL	reporting limit
RPD	relative percent difference
SDG	sample delivery group

INTRODUCTION

This report presents and discusses findings of the data validation performed on analytical data for soil and water samples collected during September 2015 for the referenced project. The laboratory reports validated herein were submitted by Analytical Resources, Inc. (ARI)in Tukwila, Washington.

A Stage 2B (as defined in EPA 2009) data validation was performed on these laboratory reports. The validation followed the procedures specified in USEPA CLP Functional Guidelines ([NFGs], EPA 2014), with modifications to accommodate project and analytical method requirements. The numerical quality assurance/quality control (QA/QC) criteria applied to the validation were in accordance with those specified in the sampling and analysis plan([SAP], SoundEarth Strategies 2015)and the current performance-based control limits established by the laboratory (laboratory control limits). Instrument calibration, frequency of QC analyses, and analytical sequence requirements were evaluated against the analytical method.

Validation findings are discussed in each section pertinent to the QC parameter for each type of analysis. Qualified data with applied data qualifiers are summarized in the **Summary** section at the end of this report. Samples and the associated analyses validated herein are summarized as follows:

Field Sample ID	Laboratory Sample ID	Sampling Date	Sample Type	Analysis
				PCBs
266-N12-1+13	15-16293-AML7A	09/15/15	Soil	X
266-S14-1+13	15-16294-AML7B	09/15/15	Soil	X
266-W13-1+11	15-16295-AML7C	09/15/15	Soil	X
266-E15-1+11	15-16296-AML7D	09/15/15	Soil	X
266-B11-1+9	15-16297-AML7E	09/15/15	Soil	X
CMP12-B08-1+06	15-16384-AMN4A	09/15/15	Soil	X
CMP24-B09-1+05	15-16385-AMN4B	09/15/15	Soil	X
CMP12-B08-1+06	15-16384-AMN4A	09/15/15	Soil	X
CMP24-B09-1+05	15-16385-AMN4B	09/15/15	Soil	X
CMP12-B07-1+06	15-16466-AMO6A	09/16/15	Soil	X
CMP24-B10-1+05	15-16467-AMO6B	09/16/15	Soil	X
266-B11-2+06	15-16831-AMV1A	09/21/15	Soil	X
266-S14-2+07	15-16832-AMV1B	09/21/15	Soil	X
266-W13-2+07	15-16833-AMV1C	09/21/15	Soil	X
266-N12-2+07	15-16834-AMV1D	09/21/15	Soil	X
266-E15-2+07	15-16835-AMV1E	09/21/15	Soil	X

Field Sample ID	Laboratory Sample ID	Sampling Date	Sample Type	Analysis
				PCBs
JFOS3-PC09+15	15-16893-AMW0A	09/21/15	Soil	X
JFOS3-PC10+15	15-16894-AMW0B	09/21/15	Soil	X
JFOS3-PC11+15	15-17007-ANA4A	09/23/15	Soil	X
CMP24-B10+05R	15-17008-ANA5A	09/23/15	Water	X

Notes:
PCBs – Polychlorinated biphenyls
X – The analysis was requested and performed on the sample.

The analytical parameters requested for the samples, the respective analytical methods, and the analytical laboratories are summarized below:

Parameter	Analytical Method	Analytical Laboratory
PCB Aroclors	SW846 Method 8082A	Analytical Resources, Inc. Tukwila, Washington

Note:SW846 - *USEPA Test Methods for Evaluating Solid Waste, Physical/Chemical Methods,* SW-846, Third Edition, December 1996.

DATA VALIDATION FINDINGS

1. PCB Aroclors (EPA Method SW8082A)

1.1 Sample Management and Holding Times

All samples were hand-delivered to the laboratory immediately after collection, and stored at the laboratory properly.No anomalies were identified in relation to sample preservation, handling, and transport.

Soil samples should be extracted within 14 days and water samples within seven days of collection. Sample extracts should be analyzed within 40 days of extraction. All samples were extracted and analyzed within the required holding times.

1.2 Initial Calibration

The method requires that (1) a minimum of 5-point calibration be performed using the mixture of Aroclor 1016 and 1260, (2) a single-point calibration be performed for the other five Aroclors to establish calibration factors (CFs) and for Aroclor pattern recognition, (3) at least 3 peaks (preferably 5 peaks) must be chosen for each Aroclor for characterization, (4) the %RSD values of Aroclor 1016 and 1260 CFs must be ≤20%, and (5) if dual column analysis is chosen, both columns should meet the requirements. All ICALs met the requirements.

1.3 Calibration Verification

The method requires that (1) the initial calibration be verified prior to any analysis for each 12-hour analysis sequence, and (2) the %D value be within ±20% for the Aroclor. The continuing calibration verification met the method criterion.

1.4 Method Blanks

Method blanks were prepared and analyzed as required. PCB Aroclors were not detected at or above the reporting limits (RLs) in the method blanks.

1.5 Surrogate Spikes

Surrogate spikes were added to all samples as required by the method.All surrogate spike %R values were within the laboratory control limits.

1.6 Matrix Spike and Matrix Spike Duplicate (MS/MSD)

MS/MSD analyses were performed on a project sample as required. The percent recovery (%) and relative percent difference (RPD)values were within the laboratory control limits.

1.7 Laboratory Control Sample (LCS) and LCS Duplicate (LCSD)

LCS and LCSD analyses were performed as required by the method. All %R and RPD values were within the project control limits.

1.8 Method Reporting Limits

Sample-specific RLs were supported with adequate initial calibration concentrations. Chemical interference was present in selected samples such that reporting limits for one or multiple Aroclors in these samples were elevated from standard RLs. However, all sample-specific RLs met the project quantitation limit goal of 0.33 mg/kg.

1.9 Field Duplicates

Field duplicates were not required for PCB Aroclors analyses in this sampling event.

1.10 Overall Assessment of PCB Aroclors Data Usability

PCB Aroclor data are of known quality and acceptable for use.

SUMMARY

Table I. Data Affected by QC Anomalies

Laboratory ID	Sample ID	Analyte	Qualifier	Qualified Reason	Report Section
No data qualifiers were assigned in relation to QC anomalies in these SDGs.					

REFERENCES

*USEPA 2014. Contract Laboratory Program National Functional Guidelines for Organic Superfund Data Review.*Office of Superfund Remediation and Technical Innovation. August 2014. EPA 540-R-014-002.

USEPA 2009. Guidance for Labeling Externally Validated Laboratory Analytical Data for Superfund Use, January 13 2009. EPA 540-R-08-005.

USEPA 1998. Test Methods for Evaluating Solid Waste (SW-846). Third Edition and Revised Update IIIA. Office of Solid Waste and Emergency Response, Washington, D.C. April 1998.

*USEPA Region 10 2015. Jorgensen Forge Outfall Site, Sampling and Analysis Plan/Quality Assurance Project Plan, Third Modification for the Administrative Order on Consent for Removal Action.*SoundEarth Strategies, Inc., September 2015.

ATTACHMENT D

DISPOSAL RECEIPTS

215119

WASTE MANAGEMENT

Alaska Street
70 S Alaska Street
Seattle, WA, 98134

Ph: 206 763 5025

Reprint
Ticket# 109561

Customer Name JORGENSEN FORGE CORPORATION J
Ticket Date 09/15/2015
Payment Type Credit Account
Manual Ticket#
Route AK
Hauling Ticket#
Destination
PO# 1193210R

Carrier SELF HAULER *
Vehicle# C43
Container
Driver RALPH PLATA
Check#
Billing# 0000331
Grid

Volume

	Time	Scale	Operator	Inbound		
In	09/15/2015 09:58:04	SCALE 1	lmercer		Gross	106700 lb
Out	09/15/2015 10:06:36	SCALE 1	lmercer		Tare	39880 lb*
			* Manual Weight		Net	66820 lb
					Tons	33.41

Comments CLEARCREEK-KF

	Product	LDx	Qty	UOM	Rate	Tax	Amount	Origin
1	Daily Cover-PCS-Tons-Pet	100	33.41	Tons				KING
2	FEA-FUEL,ENV,ADMIN	100	33.41	Tons				
3	GONDOLA T/10T MIN-GONDOL	100	33.41	Tons				

Total Tax
Total Ticket

Driver's Signature

2001WM

WASTE MANAGEMENT

Alaska Street
70 S Alaska Street
Seattle, WA, 98134

Reprint
Ticket# 109578

Ph: 206 763 5025

Customer Name JORGENSEN FORGE CORPORATION J
Ticket Date 09/15/2015
Payment Type Credit Account
Manual Ticket#
Route AK
Hauling Ticket#
Destination
PO# 119321DR

Carrier SELF HAULER *
Vehicle# C43
Container
Driver RALPH PLATA
Check#
Billing# 0000331
Grid

Volume

	Time	Scale	Operator	Inbound		
In	09/15/2015 12:18:55	SCALE 1	lmercer		Gross	104240 lb
Out	09/15/2015 12:18:55		lmercer		Tare	39880 lb
					Net	64360 lb
					Tons	32.18

Comments CLEARCREEK-KF

	Product	LDX	Qty	UOM	Rate	Tax	Amount	Origin
1	Daily Cover-PCS-Tons-Pet	100	32.18	Tons				KING
2	FEA-FUEL,ENV,ADMIN	100	32.18	Tons				
3	GONDOLA T/10T MIN-GONDOL	100	32.18	Tons				

Total Tax
Total Ticket

Driver's Signature

2CBWM

WASTE MANAGEMENT

Alaska Street
70 S Alaska Street
Seattle, WA, 98134

Ph: 206 763 5025

Reprint
Ticket# 109587

Customer Name JORGENSEN FORGE CORPORATION J
Ticket Date 09/15/2015
Payment Type Credit Account
Manual Ticket#
Route AK
Hauling Ticket#
Destination
PO# 1193210R

Carrier SELF HAULER *
Vehicle# C43
Container
Driver RALPH PLATA
Check#
Billing# 0000331
Grid

Volume

	Time	Scale	Operator
In	09/15/2015 14:06:52	SCALE 1	lmercer
Out	09/15/2015 14:06:52		lmercer

Inbound

Gross	86320 lb
Tare	39880 lb
Net	46440 lb
Tons	23.22

Comments CLEARCREEK-KF

	Product	LD%	Qty	UOM	Rate	Tax	Amount	Origin
								KING
1	Daily Cover-PCS-Tons-Pet	100	23.22	Tons				
2	FEA-FUEL,ENV,ADMIN	100	23.22	Tons				
3	GONDOLA T/10T MIN-GONDOL	100	23.22	Tons				

Total Tax
Total Ticket

Driver's Signature

x08WM

WASTE MANAGEMENT

Alaska Street
70 S Alaska Street
Seattle, WA, 98134

215119

Reprint
Ticket# 109598

Ph: 206 763 5025

Customer Name JORGENSEN FORGE CORPORATION J
Ticket Date 09/16/2015
Payment Type Credit Account
Manual Ticket#
Route AK
Hauling Ticket#
Destination
PO# 1193210R

Carrier SELF HAULER *
Vehicle# C43
Container
Driver RALPH PLATA
Check#
Billing# 0000331
Grid

Volume

	Time	Scale	Operator	Inbound		
In	09/16/2015 08:13:35	SCALE 1	lmercer		Gross	97100 lb
Out	09/16/2015 08:13:35		lmercer		Tare	39880 lb
					Net	57220 lb
					Tons	28.61

Comments CLEAR CREEK - LM (MNFST# 201500)

	Product	LD%	Qty	UOM	Rate	Tax	Amount	Origin
1	Daily Cover-PCS-Tons-Pet	100	28.61	Tons				KING
2	FEA-FUEL,ENV,ADMIN	100	28.61	Tons				KING
3	GONDOLA T/10T MIN-GONDOL	100	28.61	Tons				KING

Total Tax
Total Ticket

Driver's Signature

203WM

215119

Reprint
Ticket# 109609

WASTE MANAGEMENT

Alaska Street
70 S Alaska Street
Seattle, WA, 98134

Ph: 206 763 5025

Customer Name JORGENSEN FORGE CORPORATION J
Ticket Date 09/16/2015
Payment Type Credit Account
Manual Ticket#
Route AK
Hauling Ticket#
Destination
PO# 1193210R

Carrier SELF HAULER *
Vehicle# C43
Container
Driver RALPH PLATA
Check#
Billing# 0000331
Grid

Volume

	Time	Scale	Operator
In	09/16/2015 09:47:08	SCALE 1	lmercer
Out	09/16/2015 09:47:08		lmercer

Inbound

Gross	104600 lb
Tare	39880 lb
Net	64720 lb
Tons	32.36

Comments CLEARCREEK-KF

	Product	LD%	Qty	UOM	Rate	Tax	Amount	Origin
1	Daily Cover-PCS-Tons-Pet	100	32.36	Tons				KING
2	FEA-FUEL,ENV,ADMIN	100	32.36	Tons				KING
3	GONDOLA T/10T MIN-GONDOL	100	32.36	Tons				KING

Total Tax
Total Ticket

Driver's Signature

203WM

215119

Reprint
Ticket# 109618

Alaska Street
70 S Alaska Street
Seattle, WA, 98134

Ph: 206 763 5025

WASTE MANAGEMENT

Customer Name JORGENSEN FORGE CORPORATION J
Ticket Date 09/16/2015
Payment Type Credit Account
Manual Ticket#
Route AK
Hauling Ticket#
Destination
PO# 1193210R

Carrier SELF HAULER *
Vehicle# C43
Container
Driver RALPH PLATA
Check#
Billing# 0000331
Grid

Volume

	Time	Scale	Operator
In	09/16/2015 11:43:28	SCALE 1	lmercer
Out	09/16/2015 11:43:28		lmercer

Inbound

Gross	81080 lb
Tare	39880 lb
Net	41200 lb
Tons	20.60

Comments CLEARCREEK-KF

	Product	LD%	Qty	UOM	Rate	Tax	Amount	Origin
1	Daily Cover-PCS-Tons-Pet	100	20.60	Tons				KING
2	FEA-FUEL,ENV,ADMIN	100	20.60	Tons				KING
3	GONDOLA T/10T MIN-GONDOL	100	20.60	Tons				KING

Total Tax
Total Ticket

Driver's Signature

205WM

21519

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST	1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Manifest Tracking Number
				100034602 CTN

GENERATOR

5. Generator's Name and Mailing Address / Generator's Site Address (if different than mailing address)

Generator's Phone:

6. Transporter 1 Company Name — U.S. EPA ID Number

7. Transporter 2 Company Name — U.S. EPA ID Number

8. Designated Facility Name and Site Address — U.S. EPA ID Number

Facility's Phone:

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1.					
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name — Signature — Month — Day — Year

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:

Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Paul Vercelli — Signature — Month — Day — Year

Transporter 2 Printed/Typed Name — Signature — Month — Day — Year

DESIGNATED FACILITY

18. Discrepancy

18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

18b. Alternate Facility (or Generator) — U.S. EPA ID Number

Facility's Phone:

18c. Signature of Alternate Facility (or Generator) — Month — Day — Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a

Printed/Typed Name — Signature — Month — Day — Year

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete. **GENERATOR'S INITIAL COPY**

21519

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST	1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Manifest Tracking Number
		1		100034601 CTN

5. Generator's Name and Mailing Address

Generator's Site Address (if different than mailing address)

Generator's Phone:

6. Transporter 1 Company Name — U.S. EPA ID Number

7. Transporter 2 Company Name — U.S. EPA ID Number

8. Designated Facility Name and Site Address — U.S. EPA ID Number

Facility's Phone:

	9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes		
GENERATOR	X	1.							
		2.							
		3.							
		4.							

14. Special Handling Instructions and Additional Information

PT 2.1.5

15. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
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Generator's/Offeror's Printed/Typed Name — Signature — Month — Day — Year

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:

Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name — Signature — Month — Day — Year

Transporter 2 Printed/Typed Name — Signature — Month — Day — Year

DESIGNATED FACILITY

18. Discrepancy

18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

18b. Alternate Facility (or Generator) — U.S. EPA ID Number

Facility's Phone:

18c. Signature of Alternate Facility (or Generator) — Month — Day — Year

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Printed/Typed Name — Signature — Month — Day — Year

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

GENERATOR'S INITIAL COPY

JEV Recycling

Incoming

PO Box 1261
Woodinville, WA 98072
(425) 485-5415

A

Customer Clearcreek [illegible]	Job/PO # [illegible]
	Zip Code
Address [illegible]	
Phone No. [illegible]	Truck No. 40
Date 9/16	Driver RALPH

Enter number of yards below:

Time		Concrete 2ft Minus	Concrete 2ft w/ rebar	Concrete 2ft larger	Asphalt
Example					
5:10	1		1640	[illegible]	
	2				
	3				
	4				
	5				
	6				
	7				
	8				
	9				
	10				
	11				
	12				

Pink copy for customer